NOVEMBER • 1958

FIREMEN

VOLUME 25, NUMBER 11, COPYRIGHT 1958 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

Night Training in Tennessee — *see page 7*

IONAL FIRE
TECTION
OCIATION

63rd
year

HANDLING ATOMIC WEAPON ACCIDENTS Page 8

HOSE THREADS – A NATIONAL DISGRACE Page 12

AKRON BRASS
FIRE FIGHTING EQUIPMENT

FINEST NOZZLE EVER MADE...

DUAL GALLONAGE

Two gallonages from *one* Imperial nozzle, just by depressing the baffle and giving it one quarter turn! Conserves water, reduces water damage, gives you the versatility of two nozzles at the end of your line *without shutting down*. This easy quarter-twist changes the 1½" Imperial from 95 GPM to 60 GPM, changes the 2½" Imperial from 240 GPM to 120 GPM.

TURNS EASILY AT ANY PRESSURE

CONSTANT GALLONAGE

— GPM is always the same, no matter what the setting. Straight stream, narrow or wide fog — all the same gallonage. There's no fluctuating pump pressure, no varying back pressure.

BEST FOG and STRAIGHT STREAM

of any fog nozzle. Impinging high-velocity center cone jets give a solid, far reaching fog. Full gallonage straight stream reaches farther with water gallonage at full rated capacity of the nozzle.

COMPACT, LIGHTWEIGHT, EASIER TO USE!

Style	Size	GPM	List Price	
			PB	CP
710-R*	1"	23	77.65	82.05
715	1½"	95-60	84.55	88.95
715-R	1½"	95-60	84.55	88.95
725	2½"	240-120	106.85	112.35
725-R	2½" for dir. con.	240-120	106.85	112.35
729	2½" for P.P.**	240-120	91.65	99.15
729-R	2½" for P.P.	240-120	91.65	99.15
749	2½" with P.P.	240-120	116.75	130.50
749-R	2½" with P.P.	240-120	116.75	130.50

*Right Base **Play Pipe

DUAL GALLONAGE

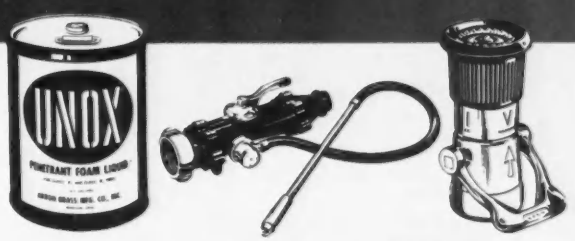
Choice of two water rates from one nozzle — depress and ¼ turn baffle in either direction to get lower gallonage — another ¼ turn and you return to full gallonage.

...IMPERIAL

WATER LUBRICATED — Works easily at all pressures, *never* needs grease. Efficient ball shut-off is water lubricated.

SMALLER, LIGHTER, TOUGHER — The materials used in the IMPERIAL have been carefully engineered to reduce weight and size without sacrifice of strength or capacity. The result — one lighter, tougher, easier-to-use nozzle.

FOG-FOAM-WET WATER — First nozzle engineered with matching eductors for production of foam, wet water or fog in all degrees of pattern and straight stream . . . all without changing nozzles or shutting down. Produces foam or wet water at all settings.



UNOX® + AKRON EDUCTOR + IMPERIAL NOZZLE

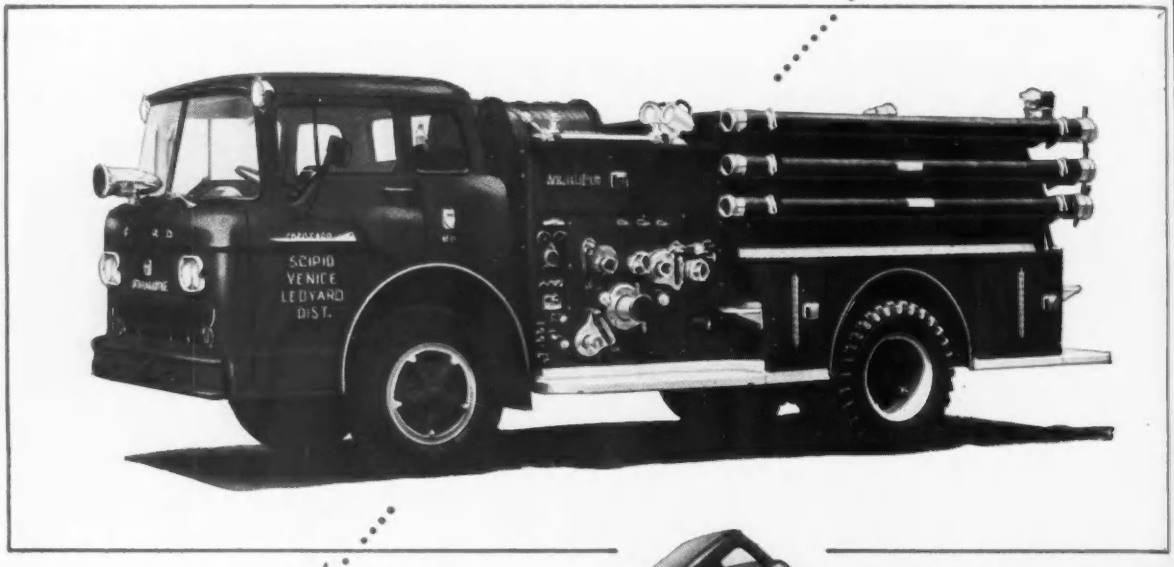
MODERNIZE WITH FOAM — GET THIS AKRON TEAM

For tougher, quick-acting foam or wet water. 1,000 gallons of water will produce up to 10,000 gallons of fire-fighting foam with UNOX®. Akron nozzles and Akron eductors are perfectly matched.

Akron Brass Mfg. Company, Inc., Wooster, Ohio

AMERICAN LAFRANCE

Custom Built Equipment on Your Preferred Commercial Chassis



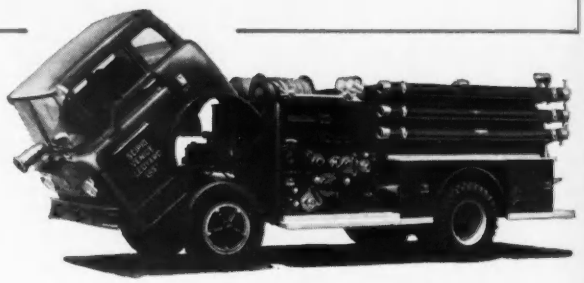
The American LaFrance reputation for dependable performance and top quality in fire engines dates back to steamer days. The modern American LaFrance custom built fire engine is the standard of excellence in the fire service. This same custom built equipment is engineered for mounting on your preferred commercial truck chassis, and at a competitive price.

The TWINFLOW pump has many Extra Value features:

- Hardened stainless steel impeller shaft.
- Positive type manual transfer valve.
- Positive displacement priming pump.
- Built in oil cooler.
- Single packing, manually adjusted.

Hose body is 12 gauge cold drawn steel. Hose capacity with 500 gallon water tank, 1400 feet 2½ inch d.j. cotton hose, plus 400 feet 1½ inch d.j. cotton hose.

Water tanks 10 gauge steel with full Zincilate treatment. Removable covers, baffled and deep sump with 2½ inch outlet.



● The tilt cab type of chassis provides a maximum of accessibility plus short overall length, good driver visibility, and short turning radius.

American LaFrance all-steel aerial ladders have proven their superior strength and reliability in 20 years of fire service use. This same all-steel aerial ladder in 65 ft. and 75 ft. lengths is available on your preferred commercial truck chassis. The same hydraulic system standard on all American LaFrance aerials is used. One man control for all operation.

- 222 feet ground ladders, N.B.F.U. recommended selection.
- 65 inch diameter turntable, 94 inch diameter operating platform.
- 145 inch ground jack spread.
- 5 equipment compartments, 4 are enclosed type.

See our representative or write for details.

● 65 ft. all steel aerial, 188 inch wheelbase, 35 ft. 11 inches overall length.

AMERICAN LAFRANCE

DIVISION OF STERLING PRECISION CORPORATION
ELMIRA, N. Y., U. S. A.
In Canada, LaFrance Fire Engine and Foamite, Ltd., Toronto, Ont.

NEW

NEW External Check Valve prevents moist exhaled air from entering the canister. Seals out moisture when mask is in storage. Closes automatically after inhalation. Threads at both ends permit easy, positive connection between canister and breathing tube.

MSA
M-S-A® ALL-SERVICE Model "S"
WINDOW-CATOR® CANISTER
UNIVERSAL GAS MASK CANISTER
BUREAU OF MINES APPROVED
See Approval Label On Reverse Side
This INDICATOR→ section changes color
R
Cat. N. EA-61288
U. S. Patents—2,337,
1. THIS WINDOW INDICATOR APPLIES
TECTION AFFORDED AGAINST CARBON MO
2. DISCARD CANISTER when color of any
CATOR SECTION approaches the color of
SECTION. Never use canister when INDICATOR SECTION is pink or less blue than REFERENCE SECTION.
IMPORTANT INFORMATION—READ CAREFULLY
Comparison of the colors of the INDICATOR and REFERENCE sections should be made, when practicable, in daylight or under daylight-type lamps. Light from incandescent light bulbs and battery operated cap lamps accentuates the blue color of the INDICATOR section. Canisters observed under these lighting conditions should be discarded when the color of the INDICATOR section is still somewhat bluer than that of the REFERENCE section.
This Side of Canister Should Face Outward
Discarded—
Minutes
Remarks
APPLIANCES CO.
Pittsburgh 8, Pa.

NEW Plastic-coated Tape Seal can be removed quickly and easily when mask goes into service. Can be replaced repeatedly in bottom of canister when mask is in storage. Helps preserve the canister when not in use.

These 3 improvements in M-S-A "All-Service"® Gas Masks provide a new standard in wearer-confidence and lower canister operating costs

New M-S-A Model "S" All-Service Gas Masks now employ three of the most modern scientific safeguards for general respiratory protection. The brief captions tell how these new features work to provide built-in safety factors and help avoid the expense of *premature* canister replacement. You'll find them profitable reading.

MSA also furnishes handy conversion kits to convert older model M-S-A All-Service Masks to the new type. Ask the MSA man for a demonstration, or write us for descriptive literature.

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pennsylvania

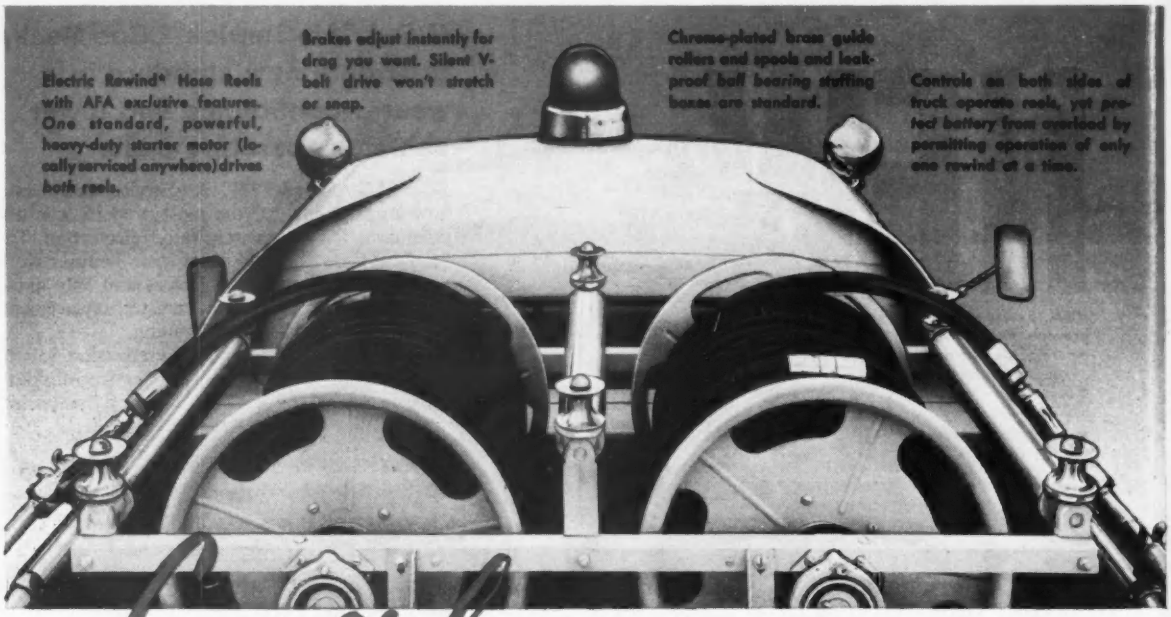
MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
500 MacPherson Avenue, Toronto 4, Ontario

At your Service: 82 Branch Offices in the United States and Canada

MSA
SAFETY EQUIPMENT HEADQUARTERS

NEW Window-Cator Canister is approved by U.S. Bureau of Mines. Contains a window with two color panels which tell you when the canister is or is not effective against carbon monoxide. This enables you to eliminate the timer and avoid premature canister replacement.

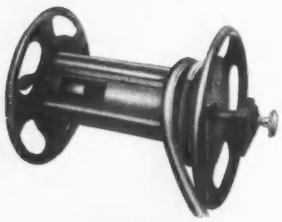
New Model "S" All-Service Gas Mask, complete with Window-Cator Canister, External Check Valve and M-S-A Cleartone Speaking Diaphragm gives fire-fighters an extra measure of confidence in emergencies. Extra large lenses assure unobscured vision.


Electric Rewind* Hose Reels with AFA exclusive features. One standard, powerful, heavy-duty starter motor (locally serviced anywhere) drives both reels.
Brakes adjust instantly for drag you want. Silent V-belt drive won't stretch or snap.
Chrome-plated brass guide rollers and spools and leak-proof ball bearing stuffing boxes are standard.
Controls on both sides of truck operate reels, yet protect battery from overload by permitting operation of only one rewind at a time.

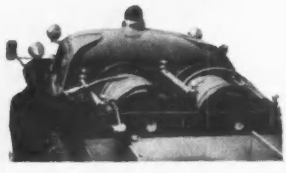
Superb HOSE REEL FEATURES AGAIN PROVE THE ENGINEERING EXCELLENCE OF American Fire Trucks

Two hose reels are supplied as standard equipment on every American Fire Truck

Inset on reel shows superior AFA construction. Collapsible, *self-adjusting* spring steel drum louvers flatten when pressure expands hose. Design prevents damage to hose and couplings—*increases* hose life.



Special convex reel wheels with *wide* rolled edges protect hose. Hose comes *straight* from coupling—*not* sharply bent—thus lasts longer. This is AFA *engineered excellence!*



Hand crank rewind* equipment includes top-quality reels, same fine design as other models.

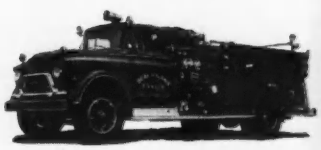
*Optional features at extra cost.

From bumper to rear step, American Fire Trucks are packed with engineered features that firemen like! Examine these fine AFA-built hose reels, for example. See how every detail helps give you faster operation, smoother performance and greater convenience than any other reel built!

As pioneer builders of the first successful electric rewind hose reel, American has continued developing, improving and action-testing to increase the useful benefits these units afford you at any fire.

In line with our policy of offering a choice of chassis, choice of midship or front-mounted pump—and other features to suit *your* community's needs—you can choose these hose reels with electric, hand-crank, or hand-operated rewinds.

Why not get full details?



Contact your nearest American representative soon!

American FIRE APPARATUS CO. "Always Pioneering with Better Engineering"

Main Office: Main St. Road, Battle Creek, Mich. • Plants at: BATTLE CREEK, MICH.; MARSHALLTOWN, IA.; STRATFORD, ONT.

FIREMEN

Volume 25 • Number 11

A monthly magazine published for the fire service members of the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.

Warren Y. Kimball *Editor*

Paul R. Lyons *Associate Editor*

Henry S. Gere *Advertising Manager*

CONTENTS FOR NOVEMBER 1958

	Page
Atomic Weapon Accidents	8
Photo of the Month!	11
Non-Standard Fire Hose Threads — A National Disgrace	12
Fitting the Tip to Hose and Nozzle Capacity, by Warren Y. Kimball	14
State and Provincial Firemen's Training — 1958	16
Christmas is Coming!	22
Leave it to the Ladies, Part II	25
Stricter Laws for Burning	27
Old Farmer's Almanac	27
Ross Switzer Appointed	27
"Beat the Hazards"	28
The "Family" of Cataract Hose Company	28
Swansea Volunteers Get New Rig	29
Membership Report	32
Physical Exams for Volunteers	34
New Fire Marshal in Ohio	35
Handy Check List Available	35
This Month's Equipment News	36
Index to Advertisers	36
Buying New Equipment?	36

Night action at the firemen's training center in Murfreesboro, Tennessee, is featured on this month's cover. This recently built drill tower has sprinkler and standpipe systems, a smoke room and other features that facilitate training of today's fire department personnel. In addition, the Murfreesboro Training Center has a two-story fire-resistant structure with fire doors, shutters, and 19 stations for thermocouple connections, an administration building with fire station, offices and library, and a 22,000 gallon pump test pit.

An indication of the extensive fire service training that goes on throughout the year will be found in the survey of state and provincial training programs beginning on page 16 of this issue. The need for adequate training facilities and top-notch instruction for the fire service is evident in the report of one state which says in part, ". . . we estimate that there has been a 25 per cent turnover in the personnel of fire departments in this state during the past year." In recent years the demand for training has brought the establishment of some excellent training centers similar to the one at Murfreesboro. As shown in the survey, the fire service in several other states has responded to this demand by taking the basic steps to improve the instruction and possibly to secure new training facilities. In summary, this year's survey once again reflects overall improvement in that vital fire service activity — the training of officers and men.

Speaking of training, the NFPA Fall Conference at the Penn-Sheraton Hotel, Pittsburgh, November 17–19, will have a special afternoon session devoted to firemen's training. Speakers will be Arthur W. Espey of the Pennsylvania Fire School, John L. Bryan of the University of Maryland, and Keith Royer of Iowa State College, all of whom will discuss timely and important aspects of firemanship training.

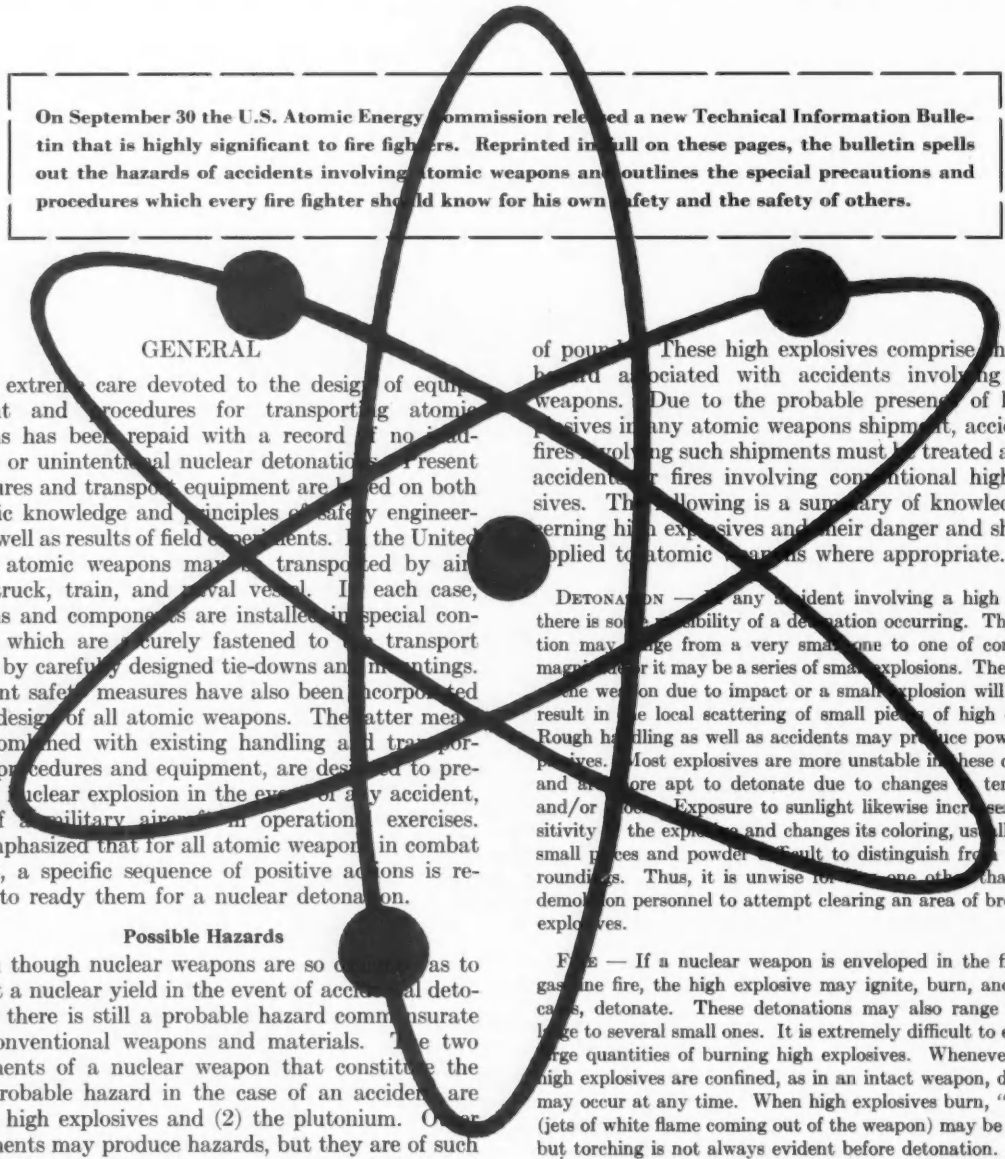
Incidentally, it has been reported that some persons who have tried to make reservations for the Conference found that the hotels were closed. As of October 23, however, the hotel strike was settled and the Conference is now going to be held on schedule. Fire chiefs and fire fighters are cordially invited.

Christmas is coming (see page 22) and once again, Sparky the fire dog is featured on an attractive 8½- by 11-in. three-color poster just published by NFPA (right). This colorful item will fit nicely on bulletin boards of schools, offices, stores and industrial plants and is now ready for immediate delivery. Orders should be sent to the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts. Prices are: 12 posters for $1.00; 100 posters for $5.00; and 1,000 posters for $35.00. When ordering, ask for "Christmas Poster JH 27 H."

WHAT TO DO ABOUT

ATOMIC WEAPON ACCIDENTS!

On September 30 the U.S. Atomic Energy Commission released a new Technical Information Bulletin that is highly significant to fire fighters. Reprinted in full on these pages, the bulletin spells out the hazards of accidents involving atomic weapons and outlines the special precautions and procedures which every fire fighter should know for his own safety and the safety of others.



GENERAL

THE extreme care devoted to the design of equipment and procedures for transporting atomic weapons has been repaid with a record of no inadvertent or unintentional nuclear detonations. Present procedures and transport equipment are based on both scientific knowledge and principles of safety engineering, as well as results of field experiments. In the United States, atomic weapons may be transported by aircraft, truck, train, and naval vessel. In each case, weapons and components are installed in special containers which are securely fastened to the transport vehicle by carefully designed tie-downs and mountings. Stringent safety measures have also been incorporated in the design of all atomic weapons. These latter measures, combined with existing handling and transportation procedures and equipment, are designed to preclude a nuclear explosion in the event of any accident, even of a military aircraft in operational exercises. It is emphasized that for all atomic weapons in combat aircraft, a specific sequence of positive actions is required to ready them for a nuclear detonation.

Possible Hazards

Even though nuclear weapons are so designed as to prevent a nuclear yield in the event of accidental detonation, there is still a probable hazard commensurate with conventional weapons and materials. The two components of a nuclear weapon that constitute the most probable hazard in the case of an accident are (1) the high explosives and (2) the plutonium. Other components may produce hazards, but they are of such a nature that precautions taken against explosives and plutonium are more than sufficient for their control. It should be kept in mind that accidents involving nuclear weapons or components will usually involve other materials in more widespread use, such as gasoline or other volatile and explosive fuels. If fire occurs, acrid, suffocating, and toxic fumes and smoke will probably be generated by the combustion of surrounding materials. In that event, normal procedures and precautions applicable to the type of fire should be taken.

High Explosives

Most atomic weapons will contain conventional high explosives in varying amounts up to many hundreds of pounds. These high explosives comprise the major hazard associated with accidents involving atomic weapons. Due to the probable presence of high explosives in any atomic weapons shipment, accidents or fires involving such shipments must be treated as would accidents or fires involving conventional high explosives. The following is a summary of knowledge concerning high explosives and their danger and should be applied to atomic weapons where appropriate.

DETONATION — In any accident involving a high explosive there is some possibility of a detonation occurring. The detonation may range from a very small one to one of considerable magnitude or it may be a series of small explosions. The break-up of the weapon due to impact or a small explosion will probably result in the local scattering of small pieces of high explosive. Rough handling as well as accidents may produce powdered explosives. Most explosives are more unstable in these conditions and are more apt to detonate due to changes in temperature and/or shock. Exposure to sunlight likewise increases the sensitivity of the explosive and changes its coloring, usually making small pieces and powder difficult to distinguish from their surroundings. Thus, it is unwise for anyone other than trained demolition personnel to attempt clearing an area of broken high explosives.

FIRE — If a nuclear weapon is enveloped in the flame of a gasoline fire, the high explosive may ignite, burn, and in most cases, detonate. These detonations may also range from one large to several small ones. It is extremely difficult to extinguish large quantities of burning high explosives. Whenever burning high explosives are confined, as in an intact weapon, detonation may occur at any time. When high explosives burn, "torching" (jets of white flame coming out of the weapon) may be observed, but torching is not always evident before detonation. High explosives may melt at comparatively low temperatures, flow out of the weapon and resolidify. In this state, they are extremely sensitive to shock. If unconfined, high explosives may burn with the production of toxic gases and leave a poisonous residue. Ignition or detonation of the high explosives in a nuclear weapon involved in a fire can be prevented if the temperature of the explosives is kept below 300°F.

DISPOSAL — Only personnel specially trained in high explosives disposal should attempt to clean up, recover or dispose of high explosives.

NUCLEAR YIELD — While it is not feasible to predict the exact effect of an accident involving high explosives, it is considered that the possibility of the accidental nuclear explosion of a nuclear weapon is so remote as to be negligible.

Plutonium

Plutonium may become dispersed as small particles as the result of impact or detonation of the high explosives, or as fumes if a fire occurs.

Body Effects — When small particles of plutonium are suspended in the air, it is possible to inhale them and thus deposit plutonium in the lungs. It may also get into the body through swallowing, but in such cases, only a small percentage is retained by the body, since the plutonium is in a highly insoluble form. Cuts in the skin provide a third source of entry through which plutonium may enter the blood stream. Plutonium is not a hazard if it remains outside the body, because it is an alpha emitter. The alpha particles have a very short range and lack the ability to penetrate the skin. This characteristic of plutonium radiation makes its behavior markedly different from that of fallout from an atomic explosion; in that it does not emit the more penetrating beta and gamma radiation. It is noted that conventional survey meters are of little use in detecting alpha radiation, and only special teams trained for handling nuclear accidents are capable of evaluating the radiological situation at the scene of an accident.

Amount Available — Field experiments indicate that the principal potential source of intake of plutonium into the body is inhalation during the passage of the cloud resulting from the detonation of the explosive, or a fire. Safety restrictions have been placed on the number of atomic weapons per shipment, so that the plutonium inhaled from an accident would not result in serious injury. Once the fine particles have been deposited on the ground, the hazard is markedly reduced. Whereas it is always desirable to reduce to a minimum the intake of plutonium, where necessary, one may enter or remain in a highly contaminated open area for short periods of time (up to several hours) after passage of the cloud.

How to Avoid — When fighting a fire involving plutonium, contamination of rescue personnel can be markedly reduced if they remain upwind and uphill from the accident. Conventional mechanical breathing apparatus or dust filter masks, goggles and protective clothing will reduce contamination for those who must enter the smoke. Members of the special radiological team wear full protective clothing, since they usually remain in the area for considerable lengths of time; however, the nonavailability of any or all of these items should not hold up rescue operations. Potential hazards in buildings can be reduced by shutting doors and windows and turning off ventilation equipment. The potential danger from plutonium to those engaged in rescue work is no more serious than the danger from the other products of combustion.

EMERGENCY PROCEDURES

General

The Department of Defense and the U. S. Atomic Energy Commission have specially trained and equipped Radiological Assistance teams prepared to deal with all aspects of accidents involving atomic weapons. These teams include ordnance disposal personnel and decontamination facilities. Their assistance may be obtained by contacting the nearest military or AEC installation.

In the event of an accident involving atomic weapons or military vehicles suspected of carrying atomic weapons, report the incident immediately to fire and police departments, and in addition, to the nearest military installation or AEC office. Give brief details of the accident, and if an aircraft is involved, its type, i. e., transport, bomber, or fighter. In the event of an accident occurring on a military base, all concerned should follow the accident procedures of the base.

Typical of accidents that fire fighters may encounter was this incident a few miles outside of Florence, South Carolina, March 11, 1958. An unarmed atomic bomb fell from a B-47 plane and landed on this dwelling. Six members of the family were injured. A seven-man disaster control team was called but fortunately there was no radioactivity in the area. (*Wide World photo.*)

Action

By first observer pending arrival of authorities:

Give immediate assistance to personnel where possible. However, except for the saving of lives, keep away from the accident. There is always the danger of a detonation of the conventional high explosives.

Report accident immediately, with brief description as above, to the nearest military installation or AEC office, local fire and police departments.

Organize other witnesses to keep sightseers away from the accident. In the open, an exclusion distance of 1,500 feet should be established because of the potential hazards from the direct blast effects of a detonation of conventional high explosives, but cover must be taken even at this range from secondary missiles flung into the air by the explosion. If there has been no explosion and it is suspected that a bomb is involved, there may still be an explosion. Except for the purpose of saving lives, keep away from the crash.

Stay out of the smoke. If there is a fire, do not enter smoke except for the purpose of actually saving lives. Always approach from upwind and from uphill if possible. In saving lives, use any immediately available method to prevent smoke from affecting your eyes and throat. Although there may be a toxic, caustic, or minor radioactive hazard in the smoke, short incursions are not likely to be serious and will not be lethal. If it has proved necessary to enter the vicinity of the smoke around the fire, report subsequently to the special team after their arrival for monitoring and possible decontamination.

Do not try to fight a fire if it is believed ammunition may be present. After rendering appropriate assistance, clear the area to at least 1,500 feet or more.

Do not touch anything unnecessarily and do not pocket or retain as souvenirs any object found in the accident area.

Action

By fire, police and emergency services pending arrival of special teams:

Rescue and assist injured personnel as practicable.

Notify nearest military installation or AEC office of the accident (and of the type of vehicle involved) and give them any information available as to whether nuclear weapons could be or are involved. They will in turn dispatch their own men to the scene of the accident and notify the Joint Nuclear Accident Coordinating Center as appropriate. In addition, pending arrival of the special team, the activity called will provide advice regarding the incident.

Clear area of all non-essential personnel to a distance of at least 1,500 feet or more. Maintain exclusion of the area until arrival of Radiological Assistance team.

If there is a fire and *if weapon is not burning or engulfed in flames*, attempt to extinguish fire in the normal manner (from upwind side only). Keep weapon cool. Tests have shown that very early application of water spray from two 2½-in. all-purpose fog nozzles will keep temperature of weapon below 200°F when nozzles are positioned on each side of weapon to envelop it in the spray. (Stop water if it accelerates burning.) The high explosive will not explode if the temperature is kept below 300°F. Do not use foam on a bomb where it will act to trap heat inside. Foam is an insulator and may act to retain sufficient heat to detonate the bomb.

If weapon is engulfed in flames or if the high explosive is burning (torching), clear area out to at least 1,500 feet of all personnel; do not attempt to fight fires.

Avoid smoke and clear downwind area, but if dense smoke must be encountered for long periods of time, dust-filtering masks, goggles, or breathing apparatus should be used. These are not needed for short stays in the smoke and their nonavailability should never hold up rescue efforts. Personnel who have entered smoke in the crash area must report to the special team for monitoring, and, if necessary, decontamination after initial action is over.

After the burning has subsided, and if the special team has not yet arrived,

Do not attempt to clean up the scene of the accident.

Do not permit re-entry into scene of accident by anyone. Rope off scene in a semi-permanent manner.

Organize all personnel that may have been contaminated to preclude the spreading of plutonium about the environs and so that they can be monitored by the special team on arrival.

Follow advice of the special radiological team upon their arrival.

RESPONSIBILITIES

General Humane Responsibilities

Major consideration, commensurate with personal safety, at the scene of an accident shall be the saving of any personnel involved in the accident. These personnel may be aircraft pilot and crew, truck drivers, couriers, etc.

Couriers

Atomic weapons are classified items of material, and, as such, must be safeguarded at all times. Couriers are personnel physically accompanying shipments of atomic weapons material for security purposes. In effect, the courier "owns" the material; that is, he is the direct custodian of the material. While he is physically able, it is the courier's responsibility to protect the material from loss or security compromise (i. e., view and handling by unauthorized personnel).

Division of Responsibilities

The AEC and DOD have agreed on the following general division of responsibility between them in all cases of accidents involving nuclear weapons:

"Immediate responsibility" for providing technical direction at scene of accident will be assumed by Service or agency receiving first notification of the incident.

Primary and continuing responsibility for providing technical direction at the scene of the accident will be assumed by the Service or AEC agency having physical possession at the time of the accident (when their personnel arrive).

The AEC and the DOD have a Joint Nuclear Accident Coordinating Center which can dispatch additional special teams as appropriate upon the request of the responsible agency.

SUMMARY

General

In the event of a nuclear weapon accident, the high explosives in a weapon will constitute the main danger. The nuclear material that would be spread about an accident area by a high explosives detonation will not cause any radiation damage to personnel if kept outside the body. Toxic or caustic gases may be produced in the burning or vaporization of weapons. Radioactive fumes from any plutonium that may be burning will accompany the toxic and caustic gases to form a smoke cloud that should be avoided.

Instructions for Personnel

Personnel approaching an accident in which it is believed an atomic weapon is involved should:

Attempt to save lives where possible; otherwise, keep away from accident area.

Notify the fire and police departments and, in addition, the nearest military installation headquarters or AEC office.

Secure area. Clear it of all non-essential personnel out to 1,500 feet or more.

Refrain from touching, removing, or examining any items in the vicinity of an explosion.

(*Copies of Technical Information Bulletin on Atomic Weapon Accident Hazards, Precautions and Procedures may be obtained from the U.S. Atomic Energy Commission, Safety and Fire Protection Branch, Washington 25, D. C.* — Ed.)

Photo of the Month!

Seldom is there a picture like this that shows so poignantly the fire fighter's dedication to saving children from death by fire. On September 13, children playing with matches started a fire in a dwelling in Erie, Pennsylvania. Among those responding was Fire Fighter Arthur J. Johnson of Engine Company No. 7 who found this nine-month-old Negro boy overcome. Desperately he tried to keep the child alive by mouth-to-mouth insufflation, the method adopted officially by the Red Cross last year for such emergencies. Despite the fact that he failed, for the child was already suffocated, Fire Fighter Johnson in this one instant created an indelible impression that will be a lasting tribute to Erie Chief Peter B. Kahn's Fire Department and to fire fighters everywhere. (*Photo by Joseph A. Comstock, Erie "Times-News."*)

NON-STANDARD FIRE HOSE THREADS —

A NATIONAL DISGRACE!

Part I

THE United States prides itself on being a country of mechanical efficiency, yet where fire fighting is concerned, a disgraceful condition has been allowed to exist. It is this — there are more than 250 different types of screw threads now being used for 2½-in. fire hose couplings in use throughout the country, despite lessons of past conflagrations where fire departments could not effectively help each other and the fact that American National Standard fire hose coupling screw threads are recommended by the National Fire Protection Association, the International Association of Fire Chiefs and the National Board of Fire Underwriters.

The IAFC has been pushing hose thread standardization since 1873, following the Chicago and Boston conflagrations. Its present Hose Coupling Standardization Committee is headed by Battalion Chief Robert Ely, Master Mechanic of the San Diego, California Fire Department. Chief Ely's report to the IAFC Conference at Los Angeles this past September and the hose coupling display booth attracted a great deal of attention from the fire chiefs and manufacturers.

California is pushing to completion the standardization of all fire hose coupling screw threads in that state. The project is being carried out by personnel from the State Fire Marshal's Department with cooperating agencies. A law passed last year requires all sizes of fire hose threads to be standard including the large hydrant outlets and the 1½-in. fire hose. (See FIREMEN for October, 1957.)

At the IAFC Conference, Chief Ely demonstrated that there is no longer an excuse for tolerating the danger and inconvenience of non-standard hose threads. The master mechanic of one large fire department having non-standard thread sent several sets of couplings to Chief Ely for trial conversion. It required only a few moments to expand the male coupling to the standard 3 1/16-in. outside diameter, then one turn of the cutting tool provided the National Standard Thread. Equipment has been developed that can convert the vast majority of non-standard threads in a matter of seconds right on the hose or nozzle. Even the dimensions that are too far from standard to be recut can be modified at small cost by methods in use in California. Already the cost of couplings has dropped as manufacturers are pricing new couplings with standard threads to compete with the conversion program.

The National Standard fire hose thread dimensions for 2½-in. hose were selected because between 80 to 90 per cent of existing threads can be easily converted to standard. The vast majority of non-standard American fire hose coupling screw threads have 7, 7½ or 8 threads per inch (National Standard thread has 7½) but it is the diameter of a non-standard coupling that makes most of the trouble. The outside diameter of a 2½-in. National Standard male coupling thread is 3 1/16 inches. When a non-standard male coupling is less than this, the brass can be expanded to the standard dimension. If the male coupling is already too large, the metal can be cut to the correct thread. Where a female coupling is smaller than standard, the thread usually can be cut without trouble; but where a thread cannot be converted readily the coupling is drilled out, a brass filling is inserted, and the new threads are cut at small cost. Tests have shown that couplings thus modified are strong and serviceable.

Many states by law have already standardized 2½-in. fire hose couplings but more than 75 different types of 1½-in. threads are in use. Hydrant outlet threads also are not always standard.

IN GENERAL, cities that are not using a standard fire hose coupling screw thread are not playing fair with the public in several ways. First, in repeated instances at large fires there has been delay and confusion over non-standard threads. Adapter couplings are a very poor substitute for the simplicity and efficiency of standard threads. Secondly, non-standard threads in general cost the taxpayer more for every piece of apparatus or equipment that must be specially threaded. In other words, a premium is paid for something much less desirable. Thirdly, non-standard threads are seldom as carefully engineered as the standard threads for which all design is specified so that the threads will give easy trouble-free use.

Where a fire department uses a "local" thread it often happens that each time an order for the thread is fitted the product is slightly different so that there is trouble in making up couplings. Often this results in an unsafe thread which may blow off under pressure.

The recommendations of NFPA Standard No. 194 cover hose coupling screw threads, washer seats, properly fitted washers, coupling bowl design, length of nipple and other characteristics. (*Price of NFPA No. 194 —"Fire Hose Coupling Screw Threads" 35 cents per copy*).

On the accompanying table we show some of non-standard "bastard" 2½-in. fire hose threads in use in the USA. For example, if Lakeland, Florida, has a large fire and wants mutual aid it should first call Asheville, North Carolina, some 600 miles away, since their couplings will match. If more help is needed it can choose between Marion, Indiana; Steubenville, Ohio; and Pittsburgh for third alarm response. Say Colorado Springs, Colorado, wants help. It should not think of Denver and Pueblo, the two large cities nearby but rather the second alarm companies would

come from Berwyn and Evanston, Illinois, based upon the availability of non-standard hose couplings. Denver would get help from Champaign and Urbana in Illinois, or Baton Rouge, Louisiana, if Omaha, Nebraska could not spare enough help. It is easy to see the logic in the fact that New York City suburbs such as Newark and Jersey City, New Jersey, have copied the Big Town's non-standard thread, but what advantage is that thread to Rapid City, South Dakota; Lake Charles, Louisiana; Macon, Georgia, and Joliet, Illinois? Or what advantage is it to Manitowoc, Wisconsin to have the same thread as Rochester, New York?

Cities with Non-Standard 2½-Inch Fire Hose Coupling Screw Threads

Size (Inches)	Threads Per Inch	City
3¼	5½	Barberton, Ohio
3	6	Tallahassee, Fla.
		Camden, N. J. (hydrant)
3.07	6	East St. Louis, Ill.
3–3$\frac{1}{32}$	6	Easton, Pa.
3$\frac{1}{32}$	6	Amsterdam, N. Y.
3.035	6	Florence, Ala.
3$\frac{3}{64}$	6	Belleville, Ill.
3$\frac{1}{16}$	6	Lakeland, Fla.
		Marion, Ind.
		Asheville, N. C.
		Steubenville, Ohio
		Pittsburgh, Pa.
		Wilkes-Barre, Pa.
		Williamsport, Pa.
3$\frac{1}{16}$–3$\frac{3}{32}$	6	Phoenix, Ariz.
3$\frac{3}{32}$	6	Granite City, Ill.
		Cedar Rapids, Iowa
		Covington, Ky.
		Newport, Ky.
		Cincinnati, Ohio
		Huntington, W. Va.
		Weirton, W. Va.
		Wheeling, W. Va.
3$\frac{1}{8}$	6	Schenectady, N. Y.
		Burlington, Vt.
		Louisville, Ky.
3$\frac{5}{32}$	6	Oklahoma City, Okla.
		McKeesport, Pa.
3$\frac{3}{16}$	6	Wilmington, N. C.
3$\frac{7}{32}$	6	Paducah, Ky.
3¼	6	Pueblo, Colo.
		Burlington, Iowa
		Muskegon, Mich.
		St. Paul, Minn. (hydrants)
		St. Joseph, Mo.
		Akron, Ohio
		Middletown, Ohio
		Allentown, Pa.
		Bethlehem, Pa.
		Cheyenne, Wyo.
3.307	6	Springfield, Ohio
3$\frac{7}{32}$	6	Reading, Pa.
3$\frac{15}{64}$	6	Alliance, Ohio
		Dayton, Ohio
		Ft. Dodge, Iowa
3$\frac{21}{64}$	6	Raleigh, N. C.
	6½	Kingston, Pa.
2$\frac{59}{64}$	7	Petersburg, Va.
3$\frac{1}{64}$–3$\frac{5}{64}$	7	Wilmington, Del.
3$\frac{1}{64}$	7	Clinton, Iowa
3$\frac{1}{32}$	7	Clinton, Iowa (hydrant)
3$\frac{1}{32}$	7	Aurora, Ill.
		Elgin, Ill.
		Rochester, N. Y.
		Manitowoc, Wis.
3$\frac{3}{64}$	7	Cicero, Ill.
		Freeport, Ill.
		Oak Park, Ill.
		Waukegan, Ill.
3$\frac{1}{16}$	7	Alton, Ill.
		Bloomington, Ill.
		Decatur, Ill.
		Galesburg, Ill.
		Peoria, Ill.
		Rock Island, Ill.
		Springfield, Ill.
		Davenport, Iowa
		Johnston, Pa.
		Superior, Wis.
3$\frac{3}{32}$	7	Hamilton, Ohio
3$\frac{1}{8}$	7	Scranton, Pa.
		Oshkosh, Wis.
3$\frac{3}{16}$	7	Rome, Ga.
		Hagerstown, Md.
3.14	7	York, Pa.
3$\frac{5}{64}$	7	Moline, Ill.
2$\frac{59}{64}$	7½	Winston-Salem, N.C.
3.010	7½	Ithaca, N. Y.
2$\frac{31}{32}$	7½	Kankakee, Ill.
3	7½	Colorado Springs, Colo.
		Berwyn, Ill.
		Evanston, Ill.
3.02	7½	Maywood, Ill.
3$\frac{1}{64}$	7½	Chicago, Ill.
		Chicago Heights, Ill.
3$\frac{1}{8}$	7½	Dearborn, Mich.
		Detroit, Mich.
		Ferndale, Mich.
		Hamtramck, Mich.
		Highland Park, Mich.
		Pontiac, Mich.
		Royal Oak, Mich.
		Wyandotte, Mich.
2$\frac{13}{16}$	8	Levrel, Miss.
2$\frac{31}{32}$	8	Lebanon, Pa.
3	8	Danbury, Conn.
		Macon, Ga.
		Joliet, Ill.
3	8	Lake Charles, La.
		Bayonne, N. J.
		Belleville, N. J.
		Bloomfield, N. J.
		Clifton, N. J.
		Elizabeth, N. J.
		Irvington, N. J.
		Jersey City, N. J.
		Kearny, N. J.
		Linden, N. J.
		Maplewood, N. J.
		Montclair, N. J.
		Newark, N. J.
		Orange, N. J.
		Paterson, N. J.
		Plainfield, N. J.
		Union Twp., N. J.
		West Orange, N. J.
		Levittown, N. Y.
		New York, N. Y.
		Yonkers, N. Y.
		Toledo, Ohio
		Rapid City, S. D.
		Fairmont, W. Va.
3.03	8	New Rochelle, N. Y.
3–3$\frac{1}{32}$	8	East Chester, N. Y.
3$\frac{1}{32}$	8	Lincoln, Nebr.
		Mt. Vernon, N. Y.
		Harrisburg, Pa.
		Pottsville, Pa.
3$\frac{1}{16}$	8	Denver, Colo.
		Champaign, Ill.
		Urbana, Ill.
		Council Bluffs, Iowa
		Baton Rouge, La.
		Monroe, La.
		Omaha, Nebr.
		Buffalo, N. Y.
		Jamestown, N. Y.
		N. Tonawanda, N. Y.
		Cleveland, Ohio
		East Cleveland, Ohio
		Euclid, Ohio
		Shaker Heights, Ohio
		Erie, Pa.
3.09	8	Elmira, N. Y.
3$\frac{3}{64}$	8	Danville, Ill.
3$\frac{3}{32}$	8	Alexandria, La.
		Lafayette, La.
		Roswell, N. M.
		Oswego, N. Y.
		Syracuse, N. Y.
3$\frac{5}{32}$	8	Bridgeport, Conn.
		Fairfield, Conn.
		Stratford, Conn.
3$\frac{11}{64}$	8	Utica, N. Y.
3$\frac{3}{16}$	8	Rome, N. Y.
3$\frac{5}{16}$	8	Butler, Pa.
		Charlottesville, Va.
		Richmond, Va.

MAKING A GOOD JOB OF IT

by
Warren Y. Kimball
Manager, NFPA
Fire Service Department
and Editor of FIREMEN

Fitting the Tip to Hose and Nozzle Capacity

IT SHOULD be kept in mind that for each size of fire hose only certain water capacities can be supplied at practical working pressures. A common mistake of the fire service has been to employ flows too small or too large for efficient use of the size of hose.

By way of the example, a single line of 2½-in. hose is generally used to provide flows of 175 to 250 gpm. For larger flows, the pressure loss may become excessive, and for smaller flows a hose of smaller size is adequate and much easier to handle. A 1⅛-in. nozzle tip will handle the full flow of a 2½-in. line of hose up to 700 feet long. When smaller flows are needed to reduce friction loss, a ⅞-in. tip or 1-in. tip can be employed. (If fog nozzles are used, the selected nozzles should produce the volume which the hose can supply at reasonable pump pressures.)

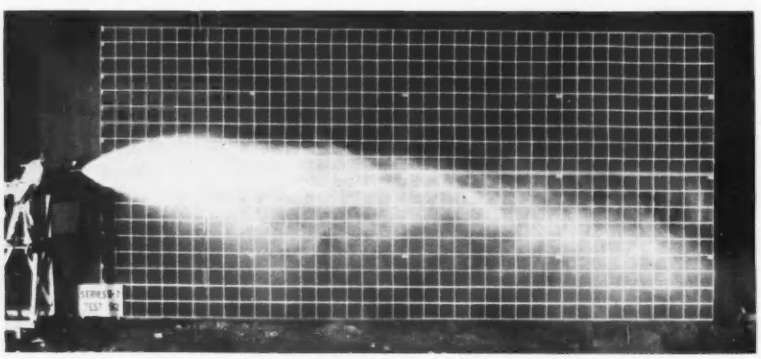
A few large fire departments specify 1¼-in. tip as the standard size for solid streams from 2½- or 3-in. hand lines. For smaller streams they reduce the line by attaching 1½-in. hose to the big line nozzle. Their philosophy is that when a big line is wanted, it should provide a powerful stream with at least a 1¼-in. tip (326 gpm at 50 lbs.). Their rules require that when a single line cannot adequately supply the standard nozzle tip, the company officer must see that siamesed lines are employed and used where street pipes are required, except on specific orders to the contrary by a chief officer.

It is wasteful to have a big line supply ⅝- and ¾-in. nozzle tips because the flows from these tips are easily handled by 1½-in. hose. Remember, it is not the size of the hose but the tip that meters the flow of water from the line. For all practical purposes, a given size nozzle discharging at a certain nozzle pressure provides a given flow — no more, no less.

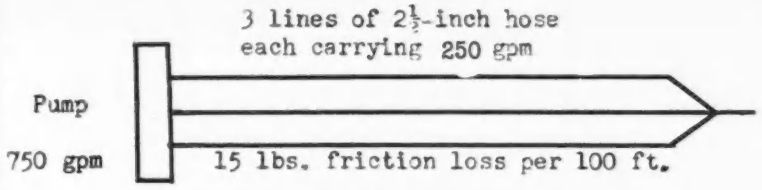
For 1½-in. crl hose, flows of 80 to 100 gpm are practical when supplied by a pumper at reasonable pressures. Somewhat higher flows are possible through short lines supplied by higher pump pressure, but 100 gpm is a good, safe figure to use for the carrying capacity of 1½-in. hose. Some departments use 40 to 50 gpm streams with this size hose. However, this practice utilizes only half of the fire extinguishing potential. Heat can be reduced much faster and water can be conserved by using the hose at its maximum efficient capacity. This results in less water damage because the nozzle can be shut down sooner. The writer's recommendation is to use a nozzle permitting full utilization of the hose line capacity, but capable of control to provide a low volume flow for overhauling. Almost any good shut-off or controlling nozzle of adequate volume will permit this.

Better hose streams could be obtained if the average fire department would inventory its nozzles and tips and decide on not over two tip sizes for each nozzle. Briefly, for each device whether hand line, monitor nozzle or ladder pipe, two tips should be carried. One would flow the full capacity of the nozzle at normal operating pressure. The second would be a smaller size that would give approximately 70 per cent or two-thirds of the flow of the larger tip at the same nozzle pressure. This would serve to cut the friction loss approximately in half. (Or in the case of a heavy stream device would permit operation of the nozzle with one less supply line when water supplies are limited.) In this connection the flows of heavy stream tips at effective pressures are given on the page opposite.

From a study of these flows, it should be clear that a difference of ¼-in. between the large size tips is needed to make a significant change of flow. If a 1⅝-in. tip will utilize the full flow of a certain heavy stream nozzle, then the

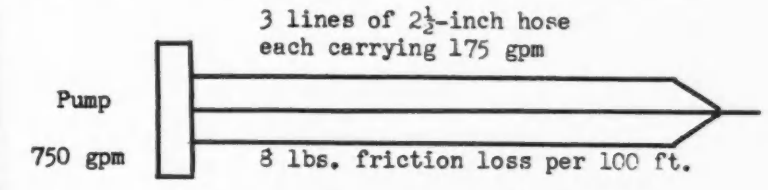


Subcommittees of the NFPA Committee on Fire Department Equipment have made extensive studies of fog and heavy stream nozzles for fire fighting. Here is a subcommittee test conducted at the University of Maryland a few years ago. Results of both studies were published in two booklets available from NFPA: "Summary of Fog Nozzle Studies" and "Tests of Heavy Stream Nozzles" each priced at 50 cents per copy.



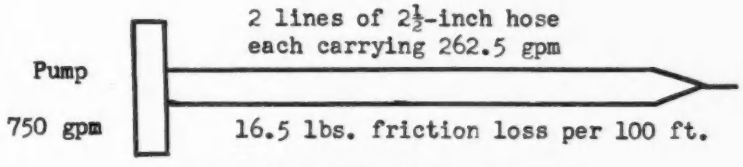
Supplying Monitor Nozzle with 1¾-in. Tip

Here a 750 gpm pump operating at capacity supplies three 2½-in. lines to a monitor. Each carries 250 gpm with 15 lbs. friction loss per 100 ft. Monitor with 1¾-in. tip delivers the full 750 gpm at 68 pounds nozzle pressure.



Supplying Monitor Nozzle with 1½-in. Tip

A 750 gpm pump in pressure operation supplies three lines of 2½-in. hose with each line carrying 175 gpm. Monitor with 1½-in. tip delivers total of 525 gpm at 62 pounds nozzle pressure.



Supplying Two Lines to Monitor Nozzle

Friction loss in each of the two lines is higher as each line carries 262.5 gpm to monitor nozzle with 1½-in. tip delivering 525 gpm at 62 pounds nozzle pressure.

smaller tip provided should be a 1⅜-in. tip. If the largest tip is 1¾-in., the smaller tip would be 1½-in. As pointed out previously, it is desirable to have tips machined to provide the exact flows best furnished by a nozzle, but the above suggestions should help departments make best use of the nozzles already at hand.

As a practical matter, the hydrant will usually assist the pump so that discharge and nozzle pressures will be somewhat higher than shown. In general, tips should be selected for heavy stream nozzles that give the desired flow at approximately 80 pounds, but pressures between 60 and 100 pounds will usually be satisfactory. It should be kept in mind that for best results, all inlets to a heavy stream device should be used in order to provide the desired flow and to reduce the friction loss in the supply layout. As shown above, at a given flow the friction loss with three supply lines is only half of that where two supply lines are used. Even if the available volume of water is limited, the use of three supply lines will provide much more efficient operation.

If it is desired to reduce friction loss for heavy stream devices, reduce the nozzle size ¼-in. or add another 2½-in. supply line providing equal pressure at the base of the nozzle. For best results, it is desirable to have one pumper of ample capacity supply each heavy stream device.

It is suggested that development of standard hose streams as described here be made a regular training exercise of each fire department insofar as their pumping and nozzle capacities will permit.

GPM Flow from Various Tip Sizes

Nozzle Pressure PSI	1¼"	1⅜"	1½"	1⅝"	1¾"
60	357	434	517	607	704
80	400	500	600	700	813
100	461	560	667	783	909
120	507	613	730	858	996

Inspections by Volunteers

ONE of the outstanding volunteer fire departments in the nation is the one in Silver Spring, Maryland, headed by Chief Dave Gratz. Originally formed in 1915 under the name of "Silver Spring Volunteer Fire Company," the organization now has a membership of over 200 volunteer firemen and 25 full-time paid firemen. Its principal operating funds come from a tax in a special fire district covering the Silver Spring community. In addition, the department derives income from county taxes and through various fund raising projects of the volunteers.

The department has an excellent record of fire prevention activity and for the last seven years has placed first in State of Maryland entries in the fire prevention contest sponsored by NFPA. Typical of its programs was the home inspection campaign carried out this year. Members inspected 5,601 dwellings after visiting 9,270. The people were not at home in 3,343 dwellings, approximately one-third of the total. There were only 326 refusals by home owners. The dwellings inspections were conducted by 40 members of the department in 79 days. Altogether they distributed 40,000 pieces of fire prevention literature and posted 59 markers on dwellings where there were invalids. (The Silver Spring Volunteer Fire Department was one of the first to develop the invalid symbols for this purpose.)

Altogether 4,405 "violations" were found during the 1958 home inspections. Most frequent was the improper storage of paint (1,158), then combustible material too close to a furnace (935), improper fusing (899), and accumulation of trash and other combustibles in the attic, basement, yard or closet (538).

Telephone stickers were placed on all phones listing the emergency number for the fire department and rescue units. Literature was left at all homes regardless of whether or not the firemen were granted permission to make inspections.

SURVEY OF
STATE AND PROVINCIAL FIREMEN'S TRAINING
— 1958 —

AS IN previous years, the survey of firemen's training reported on these pages includes only the training programs conducted with the support of various Departments of Vocational Education or through the offices of the State or Provincial Fire Marshals. It does not include the thousands of other fire fighters who received training in individual fire departments, through county organizations or through schools and annual meetings conducted by fire chiefs and firemen's associations.

It is interesting to note the difference in scope and in methods of training in the various states and provinces. It is not fair, however, to compare one with another because of the diverse problem of administration and financing in the different regions. One thing is certain though — there has been no slackening in the demand for firemen's training. As the tables on this page show, 119,401 fire fighters took part in the training programs last year and 11,530 attended fire schools. These figures equal or exceed the figures of the past three years. More significant is the improved variety and scope of training that has given more knowledge and competence to the thousands of fire fighters who made use of the instruction in firemanship.

TOTAL FIREMEN RECEIVING TRAINING
(State and Provincial Programs Only)
Year Ending June 30, 1958

State		State	
Arizona	120	New Jersey	1,760
California	6,095	New York	11,300
Colorado	7,949	North Carolina	2,039
Connecticut	1,366	Ohio	5,226
Delaware	1,386	Oklahoma	2,616
Florida	1,527	Oregon	2,627
Georgia	2,619	Pennsylvania	9,753
Idaho	274	Tennessee	702
Illinois	7,106	Texas	4,079
Indiana	1,544	Virginia	2,923
Iowa	4,703	Washington	15,391
Kansas	1,243	W. Virginia	691
Kentucky	1,503	Wisconsin	3,040
Louisiana	233	Wyoming	192
Maine	1,764	Total U. S.	116,655
Maryland	3,046*		
Michigan	4,165	B. Columbia	1,888
Minnesota	300	Ontario	458
Mississippi	573	Quebec	400
Missouri	2,239	Total Canada	2,746
Montana	789		
Nebraska	3,357		
Nevada	415	Gr. Total	119,401

*1,919 completed 30-hr. courses.

Arizona: William R. Woodfin, Supervisor, Trade and Industrial Education and Industrial Arts Education, reports that firemen's training in Arizona was confined to the Fifth Annual Fire Training School. Altogether 120 fire fighters received training at this three-day school held in Phoenix. In addition to featuring speakers from the fire service, the program included demonstrations of remote control ladder pipes, heavy stream appliances and rural fire fighting equipment. A special fire department administrators' conference held for chief officers covered changes in the NBFU grading schedule, safety regulations on insecticide spraying and fogging, radio communications, inspection procedures and fires in explosives, rubber, flammable liquids and aircraft. The Department of Vocational Education and the fire service are working together to obtain a permanent fire training center.

British Columbia: Basil Nixon, Provincial Fire Marshal, reports that the provincial training program reached 76 paid fire fighters, 1,888 volunteers and one auxiliary fire fighter. While there is no annual fire school, 18-hr. courses were held in approximately 90 localities last year. In addition, 15 classes were held for industrial and institutional fire brigades.

California: Thomas S. Ward, Supervisor of Fire Training, State Department of Education reports that 6,095 officers and men received training last year. The Fifth Annual Fire Training Officers' Workshop was held in Fresno with Chief Gayle Coger's fire department serving as host. One hundred and fifty-seven training officers completed the five-day program which covered basic instructor training, advanced conference leading, organization and instruction.

Another important event was the Fifth Annual Arson and Fire Investigation Seminar held on the campus of the University of California, June 16-20. Two hundred and six arson investigators, fire marshals, police inspectors, fire department officers and representatives from six states attended. (The Sixth Annual Arson and Fire Investigation Seminar will be held at the University of California, June 15, 1959.)

The staff of the California Fire Training Program consists of Supervisor of Fire Training Thomas S. Ward and eight traveling instructors. In addition to taking part in the above conferences, members of this staff give fire prevention instruction to schools, service clubs and other organizations. Eighty-nine zone schools and one hundred sixty-six departmental schools were held throughout the state during the year. Four hundred and seventy-four fire departments took part in this instruction.

Colorado: E. W. Crawford, Area Supervisor of Firemanship Training, State Board of Vocational Education, reports that 7,949 fire fighters and members of industrial fire brigades and civil defense units took part in the year's training program. The 25th Annual State Fire School held in cooperation with the Colorado State Firemen's Association had 760 attending. In addition, four 30-hour classes in training and officer leadership were held in different parts of the state. There are 81 localities in which 2- or 3-hr. courses can be given to local fire department members. Fire fighting demonstrations included aircraft crash fires, rescue work, and the use of fog nozzles and heavy stream appliances. Four officers' training schools are planned for the coming year.

Connecticut: Roy W. Adams, Director of Vocational Training Field Service, State Department of Education, reports that the 17th Annual Connecticut Fire College held at the New Haven Firemen Training Ground, June 2–7, attracted 250 fire fighters. Instead of the usual basic, advanced and pump operators' training courses, applicants were permitted to elect a subject for which they felt the greatest need for training. While this required a special program for each person enrolled, the results were satisfactory and the same procedure will be followed in the future.

ANNUAL STATE-WIDE FIRE SCHOOLS
1958

State	Firemen Attend.	No. Years Held
Alabama	—	22
Arkansas	—	12
Colorado	760	25
Connecticut	250	17
Delaware	585	10
Florida	153	29
Georgia	395	7
Idaho	203	9
Illinois	828	34
Indiana	225	34
Iowa	566	34
Kansas	1,243	28
Kentucky	601	24
Louisiana	97	3
Maryland	301	25
Michigan	352	30
Minnesota	300	30
Mississippi	—	—
Missouri	264	—
Nebraska	831	21
New Jersey	325	—
New York	65	10
North Carolina	500	29
North Dakota	—	—
Ohio	150	13
Oklahoma	189	25
Pennsylvania	367	—
Tennessee	116	15
Texas	1,056	29
Utah	—	—
Virginia	117	12
Washington	450	—
West Virginia	241	26
Total	11,530	

In addition, 18 regional schools held for volunteer firemen brought a total attendance of 866. The Annual Fire Officers' Conference held at the University of Connecticut and the Fire Marshals' Conference at the same site were both attended by 125. Courses were also given to industrial and institutional fire brigades.

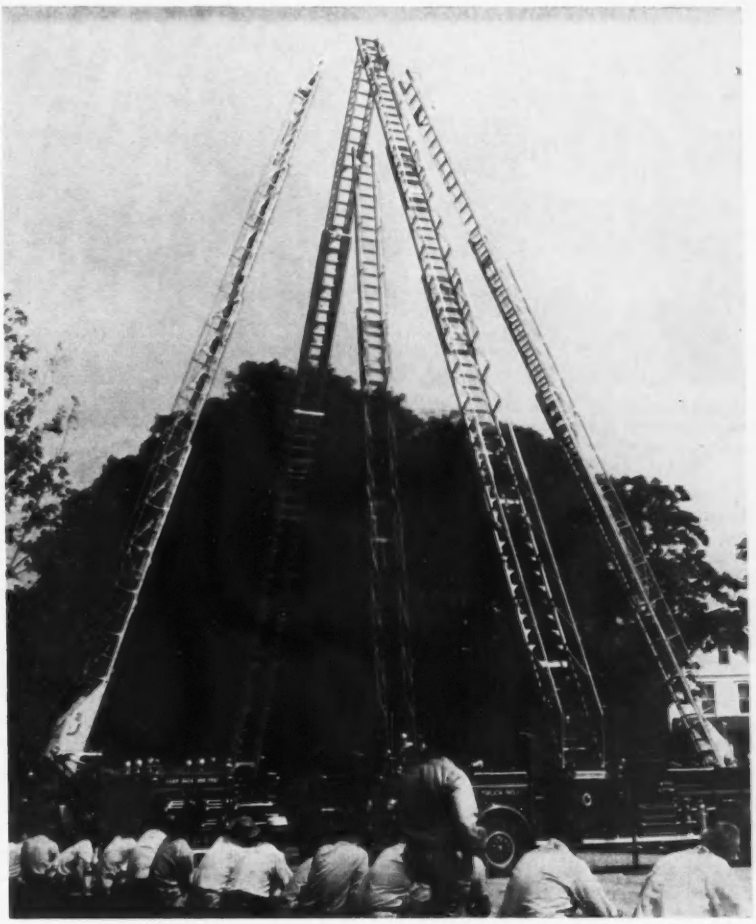
Delaware: Frank M. Forstburg, State Supervisor in charge of Supervisory Training, reports that 1,386 firemen received training last year. Five hundred and eighty-five attended the Delaware Fire School and 801 fire fighters received training in 35 centers at the local level. Special 30-hr. courses were held in teacher-training for fire department instructors. A new state training school is being planned.

Florida: W. H. Barnett, Superintendent, Florida State Fire College, reports that twenty-four 30-hr. unit classes were conducted with 153 students receiving certificates of completion. Itinerant training was held in 58 communities reaching 1,193 fire fighters for 15,414 hours of training.

Other training courses were: a 4½-day arson seminar with 100 enrolled; a two-day class in transportation handling and fire control of LP gas with 49 attending; and a 3½-day fire service training improvement conference with 32 registered.

Georgia: Thomas H. Quigley, Industrial Education Department, Georgia Institute of Technology, reports that the 7th Annual Georgia State Fire School held in Atlanta brought 395 fire fighters from 67 departments. Zone fire schools at Albany, Rome and Savannah attracted 371 fire fighters from 43 departments; while demonstration classes held throughout the state reached 1,624 members of 83 fire departments. Twelve fire department classes conducted through local Boards of Education were attended by 229 fire fighters.

As reported in FIREMEN for November, 1957, plans have been made for a Georgia Fire Institute to provide comprehensive training to the fire service. A committee of the Georgia State Firemen's Association is working with the Georgia Institute of Technology to obtain a director of the Institute and to purchase a fire truck and equipment for training.



The aerial ladder training course held at the University of Maryland has been one of the best in the country. Here a class watches a display of the five types of ladder trucks used in the course.

Idaho: Fire Chief Steve Taylor of Boise reports that 274 firemen received training through the state program last year. Two hundred and three attended the 9th Annual Idaho State Fire School held in Boise. Special instruction was given in hospital evacuation, atomic radiation and radiological monitoring. Geiger counters and ionization chambers were acquired for this instruction. Special demonstrations included the control of liquefied petroleum and natural gas fires, industrial fire prevention and evacuation.

Captain William Crawford (arms extended, left) directs ladder raise at one of the "local" training classes conducted for the Wheatridge Fire Department outside of Denver, Colorado.

Illinois: Joseph I. Fetters, Extension Specialist in Firemanship, University of Illinois, reports that 7,106 firemen received training last year. The 34th Annual Illinois Fire College had a total attendance of 828 while four regional 18-hr. leadership courses for officers attracted 1,107. Special training classes were held for aerial ladder instruction and driver training. Fire control tests were conducted on two large business buildings.

Indiana: Professor Shelby Gallien, Director, Indiana Fire Service Training Schools, Purdue University, reports that 218 paid firemen and 666 volunteer firemen received training in the regional, departmental and county-wide program. The 24th Annual Indiana State Fire School had a total attendance of 225 and the 5th Fire Administrator's Seminar was attended by 37. The popular Arson In-

The broad training program conducted in California featured 89 zone and 166 departmental training schools. In Escondido, fire fighters practiced extinguishing dwelling fires with fog nozzles as part of the training.

vestigator's Seminar attracted 303 students. Special 6-hr. training courses were held for fire officers and fire inspectors during the annual state fire school. Ninety-five men attended the industrial fire control course. Scheduled for this year are a new fire inspectors' course and a fire department management planning course.

Iowa: Keith Royer, Supervisor, Firemanship Training, Iowa State College, reports that 4,703 fire fighters were registered in the training classes last year and received an average of 8.23 hrs. of instruction. The 34th Iowa State Fire School held on the campus brought 566 registrants representing 149 Iowa cities and towns and five other states.

There are approximately 15,000 volunteer firemen in Iowa representing 930 fire departments. (There are 25 paid departments in the state.) For this group, county fire schools are held by traveling instructors who have well-equipped station wagons for instruction and demonstration. Twelve hours of training are provided in four sessions of three hours each.

The 11th Annual School for Fire Inspectors was held at Iowa State College in August, 1957. Each year there is also an Instructors' Conference for fire department officers and a recent innovation is a special training school for officers of volunteer fire departments. Drillmasters of volunteer fire departments receive 18 hours of instructor training and 18 hours of practical drill evolutions, plus special courses. For the past eight years a regional school has been held in Dubuque with emphasis on instruction in arson detection.

A two-day industrial fire safety school is held in Cedar Rapids each year and a new item is a state-wide industrial fire safety seminar.

In cooperation with the Vocational Education Division of the Department of Public Instruction, there is an 18-hr. basic course in fire department organization, fire fighting and fire prevention.

Iowa State College also publishes a number of bulletins and books that are useful to the fire service. These include: Fire Service Information, a bi-monthly bulletin; a bulletin on financing rural fire protection; 333 questions and answers for firemen; a booklet on volunteer fire department organization; a pump operator's handbook; and a bulletin on fire laws of the state of Iowa.

Kansas: Clyde A. Babb, Director of the Kansas Fire School, reports that 1,243 fire fighters received training last year. Two hundred and seventy-one attended the 28th Annual State Fire School, a 3½-day meeting that includes six 2-hr. sessions. A regional school held by the Kansas State Firemen's Association was attended by 20 fire fighters.

Kentucky: John L. Thompson, Chairman of the Kentucky Fire School, reports that state-wide training reached 1,503 fire fighters in local schools and 601 at the Annual State Fire School. A new course for fire officers that proved very popular was "Fire Department Strategy and Tactics." Instruction in the basic courses has been improved by use of new equipment and models for teaching purposes. The industrial section of the state fire school was attended by 100 members of industrial fire brigades. A three-day instructors' training conference is held at the University of Kentucky each Spring. Instructors certified after this course are used to provide instruction in local training classes. The Kentucky Fire School is sponsored by the University of Kentucky, the State Fire Marshal, the State Firemen's Association, the State Municipal League, the Lexington Fire Department, the Division of Vocational Education, the Industrial Fire Protection Council, and the Kentucky Inspection Bureau.

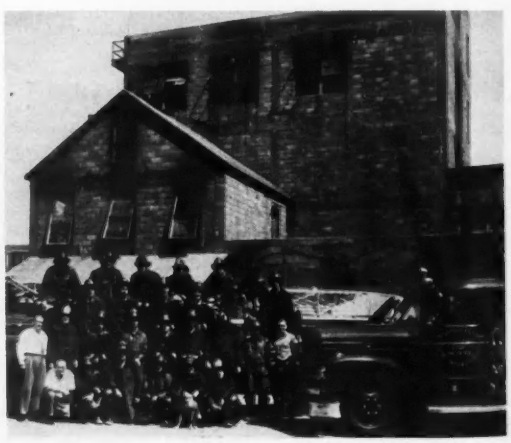
Louisiana: Chief Robert A. Bogan of the Baton Rouge Fire Department, reports that 233 fire fighters received training last year. Ninety-seven firemen attended the annual state-wide fire school.

Maine: Nelson Ingalls, Supervisor of Fire Service Training, reports that an average of nine hours of training was given to 1,764 fire fighters last year. (See FIREMEN for October, 1958.) Twenty-nine fire department instructors received teacher training at a one-week course. Eight instructors were trained in the preparation of instructional material, zoned analysis and methods of instruction. Plans for the coming year include a conference of industrial fire brigade chiefs to determine training needs for this group.

Maryland: Robert C. Byrus, Director, Fire Service Extension, University of Maryland, reports that 3,046 fire officers and fire fighters took training last year with 1,919 completing training courses satisfactorily. These figures represent only the comprehensive training sessions conducted on an organized systematic basis for classes that had a minimum of 15 hours of instruction and a maximum of 80 hours. Lectures or training sessions of less than two days are not included in the above figures.

The 24th Annual Maryland Short Course had a total attendance of 301 with 238 completing requirements satisfactorily. The recently instituted 24-hr. course on aerial ladders was completed by 62 fire fighters. The second Industrial Short Course, also a 24-hr. session, was completed by 66 members of fire brigades; and the 7th Inspectors' Short Course, a 32-hr. session, was completed by 64. Two hundred fire officers received training in a 15-hr. course; 10 fire department instructors completed a special instructor-training 30-hr. course; and 174 completed the popular fire department pump schools (16 hrs. each).

Michigan: Francis Hartman, Supervisor Firemanship Training, University of Michigan, reports that the firemanship training program breaks down into six



(Right) The Pennsylvania Fire School in Lewiston offers some of the finest facilities for firemen's training. Here one of the classes assembles before the building designed for numerous types of structural fires.

One of the training classes in Michigan where the state-wide program reached 4,165 fire fighters.

categories: town fire schools, industrial fire control programs, regional fire schools, specialized schools, state-wide conferences on training courses, and talks and lectures. Altogether 4,165 firemen received training. Town fire schools are conducted by the Extension Services' full-time instructors and by part-time fire department instructors who are qualified to teach. In the past year, thirty-seven 18-hr. courses conducted in individual towns were attended by 920 fire fighters while seven 30-hr. courses for part time instructors had an attendance of 180. Four 18-hr. courses were conducted for 96 members of industrial fire brigades. A new part of the training program is a two-day state-wide fire control seminar now held at the University of Michigan.

Regional fire schools for fire departments within a 50-mile radius are conducted on two successive nights or on Saturday. Last year, 12 of these schools brought 1,620 fire fighters from 139 fire departments. There are also special training schools such as the fire prevention school last year, an 18-hr. course attended by 485. The 30th Annual Michigan Fire College held at the University had an attendance of 352. A 30-hr. training conference for fire department instructors had an attendance of 58. At the request of the Michigan Fire Chiefs' Association and Michigan State Police, a seminar in arson control was presented at the University as an 18-hr. course with 179 attending. The first meeting of the training conference in fire department administration was a 12-hr. course designed for chief officers of the Michigan fire service. The first industrial fire control seminar held in November, 1957, had an attendance of 177.

A firemanship training facility to be known as the Civil Defense and Disaster Training Center is under construction and should be completed by March, 1959. This will result in considerable change and expansion of the present firemen's training program.

Minnesota: E. L. Weber, Assistant Commissioner, Fire Marshal Department, reports that the 7th Annual Minnesota State Fire School was attended by approximately 300 fire fighters. The school is conducted under the General Extension Division of the University of Minnesota. There are also three paid itinerant instructors who travel through the state to give instruction to volunteer firemen.

(*Continued on next page*)

"You Mean You had

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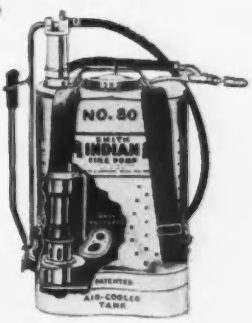

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Special courses are given for fire chiefs and other fire officers.

The Minnesota State Fire Chiefs' Association has been made plans for a permanent training center and hopes to get legislative support for this project.

Mississippi: J. W. Browne, State Supervisor, Trade and Industrial Education, reports that 573 firemen received training last year. Six special classes were held for instruction on the handling of liquefied petroleum gas fires.

Missouri: W. Bush Walden, in charge of firemanship training, Division of Continuing Education, University of Missouri, reports that a total of 2,239 fire fighters received training last year. Systematic extension training was given to 841 fire fighters representing 62 departments. Nine state-wide fire conferences brought 1,398 fire fighters from 266 departments. Most of these conferences were of 8-hr. duration with the exception of one 16-hr. meeting and the 24-hr. central Missouri Fire Conference at Columbia. Other meetings covered fire prevention lectures and demonstrations and town inspection. Special courses during the past year covered fire officer training, radiation hazards in fire fighting and the driving of fire apparatus.

Montana: W. Lyle Roeseler, State Supervisor, Trade and Industrial Education, reports that 789 firemen received training this year. It is expected that an additional instructor will be available for the training program and some supervisory training courses are scheduled for the coming year.

Nebraska: Howard Gorham, State Director, Trade and Industrial Education, reports that 3,357 fire fighters received training last year. Approximately 1,720 fire fighters took part in 483 hours of classes in the systematic circuit training program. The three-day Nebraska State Fire School had 831 fire fighters attending. Special courses covered the training of fire department instructors, preventive maintenance of fire equipment, mass fire fighting operation, and operating fire department pumpers. Fire control tests were made on protective coating of steel structures and fire retardant paints and chemicals. Planned for the future are industrial fire brigade training, instruction on water rescue and recovery, the use of first-aid equipment, and instructor training.

Nevada: H. B. Matherly, Fire Service Instructor, Nevada State Board for Vocational Education, reports that training was given by itinerant instructors last year to 415 firemen. An all-day schedule of demonstrations and tests was held at Sparks by Mr. Matherly with the cooperation of the Sparks Fire Department.

New Jersey: Firemen's training in this state is conducted with the cooperation of the New Jersey State Safety Council. Robert L. Tarbox, Director, Industrial and Fire Division, reports that 325 men registered at the Annual Fire College Training Center at Sea Girt last year. Spring training sessions were held in three areas with a total attendance of 1,760. The Spring and Fall sessions will be held again next year and an officers' training course will be held during the winter months in some central area. Training for industrial fire brigades is conducted under the sponsorship of the Industrial Fire Chiefs' Association as well as the Fire Prevention and Industrial Committees from various safety councils.

New York: Frank J. McHenka, Training Coordinator, New York Division of Safety, reports that 4,464 firemen were trained in basic courses, 3,926 in intermediate courses, 2,845 in advanced courses and 647 were trained in single company operations. Most of these were volunteer fire fighters. The 10th Annual Fire Instructors' Conference was held in Albany for 65 state fire instructors. As part of the Industrial-Institutional Fire Brigade's Training program, a fire security plan was developed for the Homer Folks Hospital which may serve as a prototype for other institutional fire brigades. Another new aspect of the training program is the development of a course on radioactive iso-

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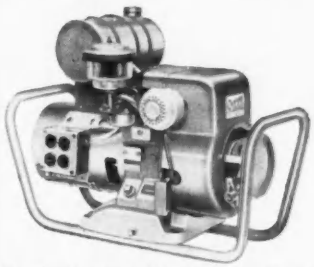

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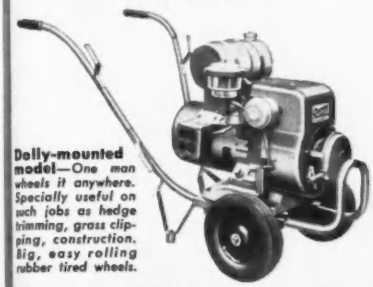

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topes now being used in industry in the state. Preliminary plans for this course may be presented at the next fire instructors' conference.

North Carolina: Chief Charles L. Burkett of the Salisbury Fire Department, Director of the North Carolina State Fire College, reports that 2,039 fire fighters received training through the annual Fire College and Pump School and twenty 15-hr. regional schools conducted for 179 fire departments. Part of the training included the burning of 42 houses in fire fighting demonstrations. Particular emphasis was given last year to training fire department officers and rural fire departments. Other classes covered county-wide radio operation and civil defense training.

Ohio: Byrl R. Shoemaker, Supervisor, Trade and Industrial Education Service, reports that 5,226 fire fighters received training last year. Basic courses were held for 3,388; 1,838 fire fighters took part in 12 regional schools; 91 took instructor training and 79 took special officer training. The Ohio State Fire School had 150 attending.

Oklahoma: Everett Hudiburg, Fire Protection Specialist, Oklahoma State University, reports that 2,616 firemen received training last year. The Annual State Fire School had attendance of 189. Ten district schools reached 344 fire fighters; 27 local schools were held for 420 volunteers; and 55 other schools reached 1,442 fire fighters. In addition, an instructors' training course was held for 14 men. A course for fire department officers had 158 attending.

Ontario: John Corfe, Information Officer of the Ontario Fire College, reports that the most important development in that province was the establishment of the Ontario Fire College at Gravenhurst, Muskoka. (See FIREMEN for November, 1957.) This residential fire college, first of its kind in Canada, is designed to train fire department officers in every phase of fire administration and fire fighting. The first course held at the college was "Atomic Fire Hazards in Industry." (The property was purchased in August, 1957, and was opened officially in August, 1958.) Itinerant training and regional fire schools

(Continued on page 30)

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A 1930 500 gpm Seagrave pumper with 400 gallon booster tank, 200 feet ¾ inch booster hose, twin Hannay booster reels, new tires, four spotlights, 30 foot extension ladder, 15 foot roof ladder, newly painted, open cab with windshield. Equipment includes axe, electric hand lanterns, hard and soft suction hoses, pike pole, booster fog nozzles.

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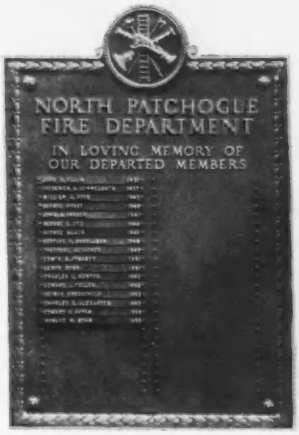

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CHRISTMAS IS COMING!

Cold weather demands special inspections by fire departments

BY NOW most fire departments have completed plans for their winter inspection program. Despite the difficulties caused by inclement weather in the months ahead, the particular hazards brought about by cold weather and the Christmas holiday season call for such specific action by fire departments to minimize fires and loss of life. In most of the larger communities the public expects and appreciates inspections and the suggestions given by the fire department through radio and television programs and newspaper releases. Sometimes, though, the best fire prevention is achieved through concentration on specific fire hazards or through thoroughly planned inspection of a type of occupancy recognized as a source of potential fire.

In this respect, Chief Hobart Strathearn's Fire Department in Paterson, New Jersey, last year got excellent results through a "crash inspection program" during the Christmas buying season. Deputy Chief Joseph J. Dayspring, Chief Supervisor, Office of the Bureau of Combustibles in the department, reports that a task force of fire department inspectors was selected for this purpose. Inspections and re-inspections were concentrated on the mercantile buildings in the main shopping district of Paterson.

First, the fire department prepared 1,000 copies of this letter which was distributed by the inspectors to all store owners in the main shopping district.

FIRE DEPARTMENT, CITY OF PATERSON, NEW JERSEY
HOBART STRATHEARN, CHIEF

We in the Fire Department sincerely hope that you enjoy a most successful Christmas Season in the selling of your merchandise to the buying public that is served by the merchants of Paterson. To that, of course, we would like to add our own personal good wishes to you and your family for a truly joyous Christmas and New Year Holiday.

As soon as the rush of the holiday buying season is over, we are going, with your cooperation, to help you remove from your places of business any accumulation of cardboard, paper or other combustible material that has piled up in your cellars, your backrooms and your storerooms because you were just too busy, during this rush season, to take care of it.

We feel that we can, in this manner, provide the means for you to restore your premises to its usual state of cleanliness, and at the same time provide greater safety to you, to your customers and to the property owners of the City of Paterson.

Immediately after the holidays a task force of fire department inspectors will visit each store in Paterson. We ask you to cooperate with these inspectors so that, the fire department, along with you, can continue Paterson as the cleanest and safest shopping center in Northern New Jersey. All of us, in a common effort, can, in this way, remove combustible material from your places of business — combustible material that might in a moment of carelessness ignite and burn you right out of business.

Neither you nor the Fire Department wish that.

Sincerely,

BUREAU OF COMBUSTIBLES

Chief Dayspring writes that as expected, a number of occupancies had conditions that needed correction. Re-inspections of these places a week later showed that all fire safety malpractices or poor conditions to which the fire department had called attention had been corrected. He also says that the entire business section was covered in a very short time by the inspectors. Not only were substantial hazardous conditions corrected but the program enabled many members of the fire department to become more familiar with the various occupancies in the main shopping district. Response of local newspapers and of the public was excellent. The crash inspection program has now been carried into the year-round inspection activities. At planned intervals, target areas or occupancies will be singled out for inspection in conjunction with the regular fire company inspection program.

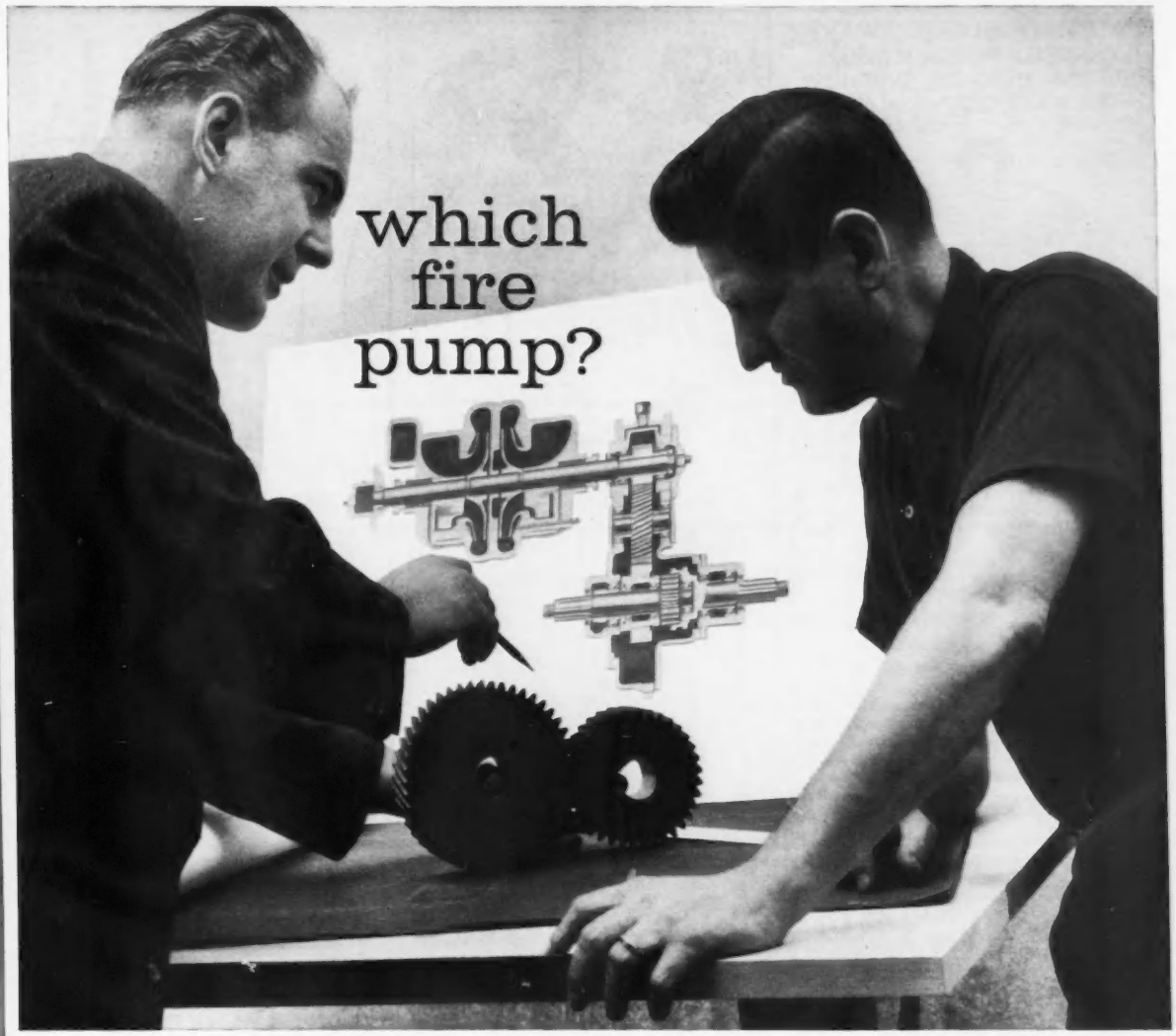
The fire hazards of the Christmas season and the winter months are well known. But special programs have to be designed for particular communities. Christmas trees pose a continual threat to every dwelling, store, hotel or other building where they are placed on display. According to the estimates of the NFPA Fire Record Department, however, there seems to have been a reduction in Christmas tree fire incidents during the past few years. In 1950 and 1951, there were approximately 1,200 Christmas tree fires in the United States. In 1952, this figure dropped to 1,000 then in the following year rose to 1,153. In 1954, the estimate was 750, in 1955 it was 900 and in 1956 it was 800. (The figure for 1957 is now being computed.)

For the Christmas season, the NFPA prepares a special colorful folder designed to instruct home owners and the general public on the basic fundamentals of fire safety during this season. Copies of this year's folder (Title: "A Happy . . . and Fire Safe . . . Christmas") are available from the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.

A number of practical and effective fire prevention campaigns can be developed around the series of Occupancy Fire Records published by the NFPA Fire Record Department. (See back cover.) Based upon analyzed fire experience in the listed occupancies, these records break down the causes of fire, the factors contributing to fire spread and the common and special hazards in the structure or areas involved. Since this series began only a few years ago, the fire studies are up to date and provide guidance to fire department inspectors who want specific facts for inspecting a particular type of structure or occupancy. For the coming winter season, four of the most significant fire records might be those dealing with one- and two-family dwellings, hotels, department stores and churches.

As reported in FIREMEN last month, the Springfield, Virginia, Volunteer Fire Department is one that gives copies of Occupancy Fire Records to owners of the type of building or industry covered by specific fire records, to encourage good housekeeping and fire safe practices.

Chief Dayspring's report proves that a concentrated "drive" by the fire department at a particular season can bring about excellent cooperation from property owners and the public. There is still time for every fire department to plan similar campaigns and put them into action for the dangerous months ahead.



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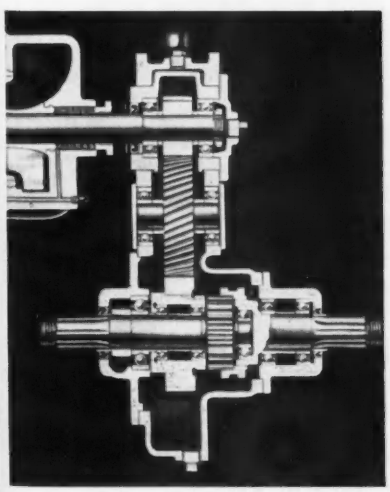

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Write for FREE Literature

Leave It to the Ladies!

by Enid M. Feldman
Part II

THIS is Part II of the story on fire department ladies' auxiliaries begun last month in FIREMEN. Throughout the country these auxiliaries are helping to support their fire departments by raising money to build fire stations and buy new equipment for them. Their work is worthy and significant to all members of the fire service. It was not possible to report the activities of every ladies' auxiliary in these two articles. However, if interest warrants, auxiliaries in other states will be surveyed for a future article.

New Mexico: The State Firemen's Association Ladies' Auxiliary issues an annual newsletter describing activities of local auxiliaries in the state. . . . The Auxiliary in Eunice takes pride in its Christmas Toy Drive. Its members hold cake sales to raise money for the project. . . . Deming ladies raise money by holding an enchilada party. Proceeds from a recent party amounted to $61.11 — for only a seven-member group. . . . The Las Vegas Fire Department is growing with the help of its Auxiliary, whose members sell vanilla and sponsor raffles to furnish the station's kitchen. Many social functions are held including a children's Christmas party and suppers for the adults. The firemen serve as hosts at several of the parties and do the cooking and dishwashing. The ladies represented their group in the Centennial of the Santa Fe Railroad, which passes through Las Vegas. . . . In Tucumcari the Auxiliary has 10 members who supplement social functions by serving food and coffee to the men battling fires.

New York: Mrs. Florence Seeley, president of the Ladies' Auxiliary of the State Firemen's Association says that the purpose of a state auxiliary "is to form local auxiliaries where they are now not present. We work to engender a fuller spirit of cooperation, sociability and helpfulness between the various ladies' auxiliaries of the volunteer and exempt firemen. As an auxiliary our first and foremost duty is to cooperate with the firemen . . . working together at time of fires . . . serving hot coffee and sandwiches, answering telephones . . . first-aid work . . . driving ambulances . . . even fire trucks . . . social functions raise the money for new fire houses and equipment."

Fund raising projects for the auxiliaries include card parties, food sales, suppers, field days, fairs and minstrel shows. Other projects are sponsoring a fund for a blind child's eye operation, donating toward a school fund for needy children, donating money and time toward community baskets at Christmas time and collecting clothing and furniture for burned-out families. The State Auxiliary has a legislative chairman who keeps the group informed about any laws or acts before the legislature so that the auxiliary can work together with the firemen to pass or reject the bill. There are county auxiliary groups in New York that serve the same purpose as a local auxiliary but combine several communities into one organization. The members of the Jefferson County Auxiliary have helped firemen search for drowning victims, and ladies in Seneca County help drive the ambulance in emergency cases.

(*Continued on page 26*)

Kay-Lab Flashers for Warning Lights

"KAY-LAB" FLASHERS are specified by many fire depts. Repeatedly the choice of City, County and State governments requiring flashing lights on emergency vehicles because only "Kay-Lab" has the features specified.

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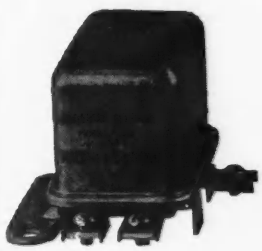

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CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

SINCE 1836

(*Continued from page 25*)

Oregon: Empire and Coos Bay have not yet organized auxiliary groups, but women in these towns do meet to help their departments and communities. The ladies of Coos Bay notify the volunteer firemen of general alarms through a telephone hookup. In Empire the group is not affiliated with the fire department but works closely with it in social activities such as Christmas parties and community Halloween parties. It recently raised enough money to purchase a coffee maker for the fire hall.

Rhode Island: Ladies' auxiliary groups are usually organized by one or two women, sometimes wives of fire officials or fire fighters, who contact their friends, who in turn spread the word of the formation of a new club. In Coventry, however, the Auxiliary was formed at the request of the firemen. A forest fire, which raged for hours out of control, convinced the tired and hungry fire fighters how essential aid was to them. (In the June, 1958, FIREMEN magazine, Dr. Lewis H. Lambert of the Hitchcock Clinic, Hanover, New Hampshire, pointed out how important medical coverage and first-aid stations are on the sidelines of a forest fire. Under competent leadership, auxiliary members can be a great help by manning first-aid stations, checking supplies, keeping records of the injured and maintaining a communication and food dispersal center.) Clifton Barbour, former fire chief of the Hopkins Hill Road Volunteer Fire Department, suggested to several women in Coventry the formation of an auxiliary group. The first meeting took place in 1952 in a building loaned by the firemen with 21 women present. Membership now numbers 40, and accomplishments include fund raising to help buy new equipment. The group's current project is the furnishing of the fire station kitchen.

Vermont: Bennington has a new resuscitator due to its Ladies' Auxiliary. The members raise money by sponsoring their annual "Ye Olde Towne House Fair." They sell handmade items, candy and cakes. The firemen help run the fairs, for which they receive half of the profit. The rest of the money goes toward club expenses, social activities, fire station maintenance and food centers for the firemen during fires.

Virginia: The Ladies' Auxiliary of the State Firemen's Association pools resources with donations of 25 cents from each member toward a "Firemen's Relief" fund to aid injured or ill firemen. By selling the symbol for "Firemen's Relief," the dogwood button, on Dogwood Day, the members supplement their own donations with those from the public. Dogwood trees are planted throughout Virginia to commemorate fire fighters.

"Any fireman who is a member of good

standing in his department," reports Gladys A. Garst, historian of the State Auxiliary, "and whose auxiliary or department belongs to the State Association is eligible to receive $25 if he is injured in the line of duty or if he is ill for a period of 30 days or more."

Stricter Laws on Burning

CHANGES in the Massachusetts general laws have been made to increase penalties for the destruction of woods by fire. The new laws result in part from the number of woods fires allegedly set during the summer of 1957 which brought about a state-wide mobilization of fire departments and civil defense forces for the emergency. The significant changes that increase the fines and punishment are as follows:

Section 7 of Chapter 266 has been changed to read: Whoever by wantonly or recklessly setting fire to any material or by increasing a fire already set, causes injury to, or the destruction of, any growing or standing wood of another, shall be punished by a fine of not more than $1000 or by imprisonment for not more than two years.

A new section 8 of Chapter 266 reads: Whoever, not being the tenant thereof, sets or increases a fire upon land of another whereby the property of another is injured, or whoever negligently or willfully suffers any fire upon his own land to extend beyond the limits thereof whereby the woods or property of another is injured, shall be punished by a fine of not more than $1000 or by imprisonment for not more than two years, and the town where such fire occurred may recover in an action of tort, brought within two years after the cause of action accrues, against any such person the expense of extinguishing such fire.

The new laws become effective 90 days after the date of approval which was August 11, 1958.

Old Farmer's Almanac

THE 1959 Old Farmer's Almanac, the 167th consecutive annual edition, 4¾-by 7½-in., 112 pages, published by Yankee, Inc., Dublin, New Hampshire, is now available. For many years it has counseled fire safety and good housekeeping. In addition, any experienced fire fighter knows that weather is one of the biggest factors in fire behavior. Old Farmer's weather lore is not only filled with the experience of 167 years but is as up to date as modern meteorology can make it.

Ross Switzer Appointed

R. A. W. SWITZER has begun new duties as Assistant Dominion Fire Commissioner according to an announcement by the Honorable Harold Green, Canadian Administrator of Public Works in whose department C. A. Thomson (Chairman of the NFPA Forest Committee) is Dominion Fire Commissioner.

Mr. Switzer was formerly Fire Commissioner of Saskatchewan and is the immediate past Chairman of the NFPA Fire Marshals' Section.

At the International Fire Chiefs' Convention...

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"Beat the Hazards"

The Philadelphia Fire Department is using two new devices for teaching fire prevention to children. One called "Beat the Hazards" is a colorful wheel. The youngsters spin the wheel, select a card, read a question on the card, then get 15 seconds to answer. An automatic buzzer sounds when the time has elapsed. Questions on the card are divided into two sections — easy and difficult. Another teaching device used by the Department is "Fireama" on which children move magnetized miniature fire engines over a board that has a large sketch of a house with illustrations of common and special fire hazards. Local candy companies donated several thousands of boxes of candy to be awarded to children who won the games in various schools.

Fire Record of Laboratories

Latest in the series of Occupancy Fire Records published by the NFPA Fire Record Department is FR 58–3 "Laboratories." This 16-pg. 8½- by 16-in. illustrated booklet, like others in the series, reports the causes of laboratory fires, factors contributing to fire spread and other vital data. Copies (50 cents each) can be bought from the NFPA Publications Department.

The "Family" of Cataract Hose Company

In Hackettstown, New Jersey, four brothers and sons of the Tynan family serve as members of Cataract Hose Company with an accumulated service of 155 years. Shown above, this Tynan family includes *(left to right)*: Milton J., Chief Frank L., Past Chief Norman P., and John M. In the rear row are Clarence F. (son of Chief Frank), Edward M. (son of Milton), Clifford E. (a twin of Clarence, both born on Christmas), and Bruce A. (also a son of Chief Frank). Cataract Hose Company was organized in 1877 and its members wonder if any other volunteer fire company can match this family's accomplishment of fire duty and service.

Pump operator's panel showing public address system speaker, electric hose reel, push-button pressure volume control. Pump has five 2½-in. inlets and five 2½-in. gated outlets equipped with six 1½-in. hose connections. *Photo by Deputy Chief John Borden*

Swansea Volunteers Get New Rig

THE volunteer fire department of Swansea, Massachusetts, located across Mount Hope Bay from the city of Fall River, has obtained a new 750 gpm Mack pumper powered by a 200 hp six cylinder engine. The apparatus and equipment obtained under a $17,500 appropriation by the town of Swansea, plus an old pumper taken in trade, includes a number of interesting features. There are nine automatically lighted equipment compartments having recessed chrome handles and adjustable shelves. Compartments are located fore and aft and above the rear wheels on each side, under the cab at each side and at the rear. Equipment carried includes a resuscitator furnished by the department and a new 1,200 watt generator delivered with the apparatus.

The hose body carries 1,200 ft. of 2½-in. hose and 500 ft. of 1½-in. hose. There is also a compartment for suction hose leaving the space above the side compartments free for ladders. Ladders carried include the department's 20-ft. extension type roof ladder, a 10-ft. attic ladder, and a new 3-section 35-ft. aluminum extension. There is a Hannay electric rewind booster reel with the booster line feeding through rollers at the back of the apparatus. The 2-stage Hale centrifugal pump is supplied by five 2½-in. inlet connections including 2½-in. gated inlets at each side and at the rear and 2½-in. reducers on each 4½-in. inlet. There are five 2½-in. gated outlets: two at each side and one at the rear. The side outlets are equipped with 45 degree angle connections. The rear outlet has a gated wye for two lines of 1½-in. hose and each side outlet carries a reducer for 1½-in. hose. The 500 gallon water tank has a water level gauge and is connected to the pump by 2½-in. piping arranged so that the tank may be filled from draft. The pump and all other enclosed areas are accessible for easy maintenance.

The 12-volt electrical system includes dual ignition and dual batteries and has a 100 amp. Leece Neville alternator capable of not less than 60 amps. at low engine speed. There are two 250 watt A.C. transformers with outlets for floodlights. The apparatus is also equipped with a public address system.

Call **ONE** *not* **ALL**
automatically...
SELECT *the proper*
GROUP *for* **ALERTING!**
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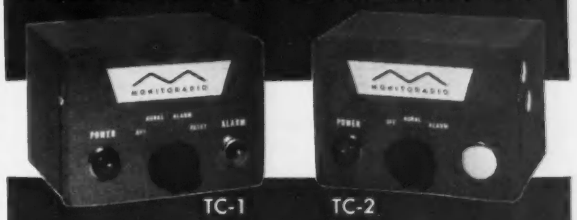

Long needed dependability at a realistic cost . . . Monitoradio Division of I.D.E.A., Inc., has developed a device for selective group alerting. This is particularly desirable where one transmitter is being used for more than one purpose; as for instance, one transmitter may be used for the Police Department, the Fire Department, and miscellaneous communications.

Two models are available; the TC-1, which is priced at $43.50, is powered and designed for use with Monitoradio Models MRC-10, MRC-33, and DR-200; the TC-2 is designed for use with Monitoradio MCA-100, from which it derives its power, and is priced at $37.50. These units can also be used with similar receivers of other makes.

This equipment, consisting of a tone switch to be attached to the receiver and a tone generator on the base station transmitter will allow selective calling of one or a group of receivers so equipped. The tone switches hold the receivers mute until the proper audio frequency tone is transmitted, at which time the tone switch responds and closes the receiver speaker circuit, allowing the message to be heard. Expressly featured in these tone switches are unique bridging and time delay circuitry which very effectively prevent false triggering from "stray" audio tones; thereby overcoming one of the most heretofore troublesome difficulties with such equipment.

The tone switches require no wiring or cutting into the set circuitry to install. They are small—only 3½" x 4¾" x 3½"—and attractively packaged.

The tone generators are made in models providing 1, 2, or 3 separate audio tones to allow for the alerting of up to three different groups from one transmitter.

Burton Browne Advertising

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State and Provincial Training

(*Continued from page 21*)

will continue to be conducted by the Fire Marshal's office.

Last year seven regional fire schools had 287 men attending; the popular fire inspection practices course had 30 students attending; the training course for municipal fire chiefs had 110 attending; and a special course on atomic fire hazards in industry had 31 students attending.

Oregon: Elmer H. Halstead, State Supervisor of Fire Service Training, reports that 2,627 firemen received training in that state. Most of the training was done in 24-hr. week-end schools conducted on an area basis. Special courses were conducted for fire officers and covered such subjects as supervision, basic psychology, human relations, supervisory responsibility, and communication. Training on relay pumping and arson detection was incorporated into the program. Plans include the development of two instructor-training centers offering one course in methods of teaching and one advanced course each year.

Pennsylvania: Arthur W. Espey, Supervisor, Fire Service Training, reports that 9,753 fire fighters took part in 117 classes last year. The Pennsylvania State Fire School conducted in ten sessions had a total enrollment of 367. Twenty-seven county schools and one regional fire school reached 7,147 fire fighters. Some 295 men took part in the six basic courses of 32 hours of instruction over five days while 375 men received special training programs of one to three days each. Included in this instruction were fire prevention, short courses, fire and rescue practices, radiological defense, and arson detection. Forty-three local classes taught by qualified instructors consisted of 15 three-hr. sessions and three "student assignments." Special training in single company operation was given to 13 fire departments.

Quebec: Edouard Gaudette, Provincial Fire Commissioner, reports that 400 firemen received training from a traveling instructor last year through the provincial training program. A special school was held in Montreal for officers and men of paid fire departments. In general, however, the instruction is on an itinerant basis and this past year included the burning of buildings with different fire departments practicing fire extinguishment.

Tennessee: Homer S. Elkins, Director of the Fire Training School and Itinerant Instructor Training, reports that 702 firemen received training last year with 116 attending the Annual State Fire School and 15 at a special radiological school. One-week fire fighting training sessions were conducted for 31 municipal and volunteer fire departments and for one industrial fire brigade. Manuals developed by Oklahoma State University were used as basic texts in each course. Special demonstrations included methods of controlling pyrophoric metal fires including triethylaluminum and sodium potassium alloy.

Texas: Henry D. Smith, Training School Engineering Extension Service, Texas A & M College, reports that 4,079 fire fighters in that state received training last year. One thousand and thirty took part in the Texas State Fire School and 1,056 attended special training courses in rescue, radiological monitoring and fire marshals', fire officers' and fire department instructors' workshops. Two new 30-hr. courses included one on fire pump maintenance and a training course for fire marshals. Four full-time traveling instructors held 74 classes for 72 fire departments.

Virginia: Harold I. Baumes, Executive Secretary, League of Virginia Municipalities, reports that training was given to 2,923 fire fighters last year. The 21st Annual Virginia State Fire School held in Norfolk, had a total attendance of 117. The Third Firemen's School held under the sponsorship of the Williamsburg Fire Department and the College of William and Mary had approximately 204 in attendance.

Itinerant fire instruction was given to volunteer fire companies in local and regional schools, with 558 attending 22 local schools and 1,153 attending 14 regional schools. The annual two-day Fire Chiefs' Institute held at the Jefferson Hotel, Clifton Forge, had 131 fire chiefs and supervisory officers attending from paid

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and volunteer fire departments throughout the state.

Washington: Mrs. Emma L. Ethier, Secretary, State Board for Vocational Education, Washington State Firemen's Association and the Association of Fire Chiefs, reports that 15,391 firemen took part in the training program last year. Six hundred and ninety-three received certificates for completing a 60-hr. course. The Annual State Fire School held at Spokane in July brought 450 men. In addition, there were 38 other training schools in various localities. Two courses were held for fire officers — one at Chehalis and one at Bremerton. Fire department instructors who received training through the Atomic Energy Commission are now passing this training on to other firemen. A special pump school was held in May and ten other schools were held for industrial and institutional fire brigades. Training aids were developed for instruction in natural gas fires and atomic energy and 12 hrs. were added to the officers' training class.

West Virginia: R. E. Hanna, Jr., Assistant Director, Fire Service Extension, reports that 691 fire fighters took part in the training program last year. Two hundred and forty-one attended the West Virginia State Fire School and 75 other fire fighters took part in special training classes. In addition, 20 classes were held for industrial fire brigades. Featured demonstration this year was the application of wet water foam to different types of fires.

Wisconsin: William E. Clark, recently appointed Supervisor of Fire Service Training in this state, reports that the firemen's training program is actually too new to be evaluated. However, training was conducted on a temporary basis by W. Fred Heisler of Oklahoma State University. He held six basic firemanship courses attended by 140 men and conducted 12 "specialty schools" usually two-day affairs which reached a total attendance of 2,900.

Plans for this year include the training of part-time instructors, special courses for paid fire departments adapted to local needs, short courses on special topics such as administration, officership, strategy and tactics, a series of pump schools in various parts of the state, an industrial short course, an annual state fire school, and other features. The fire program is administered by the State Board of Vocational and Adult Education. It was created by an act of the 1957 legislature which granted a budget for firemanship training.

Not part of the State training program, but certainly outstanding was the 5th Annual Fire School held at the Savannah Ordnance Depot. Approximately 3,500 fire fighters watched the spectacular demonstration. The school is sponsored by the Southern Wisconsin-Northern Illinois Firemen's Association.

Wyoming: Sam Hitchcock, State Director of Vocational Education, reports that 192 paid and volunteer fire fighters received training in 12 district fire schools last year.

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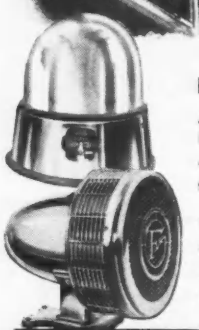

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Membership Report

FIREMEN reports in this column each month the number of municipal paid, call and volunteer fire departments who subscribe under the NFPA Fire Department Membership Plan. In addition to this group, 4,025 individuals and organizations order subscriptions to the magazine, including over 200 industrial fire brigades who request more than 2,000 subscriptions at $2.00 each per year.

NFPA Welcomes the following chiefs and fire departments who recently joined the Association. To date 24,445 fire fighters are receiving FIREMEN.

Alaska: Fairview Volunteer Fire Department, Anchorage; Petersburg Volunteer Fire Department, Petersburg.

Maryland: Volunteer Fire Department of Brandywine, Brandywine.

Michigan: Clare Fire Department, Clare; Roscommon Township Fire Department, Houghton Lake; Leoni Township Fire Department, Michigan Center.

New Jersey: Chief C. Lynch, Rochelle Park Fire Department, Rochelle Park; Westfield Fire Department, Westfield.

New York: North Tonawanda Fire Department, North Tonawanda.

North Carolina: New Hope Volunteer Fire Department, Goldsboro.

Oklahoma: Clinton Fire Department, Clinton; Elk City Fire Department, Elk City.

Oregon: Cascade Locks Fire Department, Cascade Locks; Tualatin Volunteer Fire Department, Tualatin.

Pennsylvania: Murrysville Volunteer Fire Department, Murrysville; Pleasant Valley Volunteer Fire Company No. 1, Pittsburgh 15; Roscoe Volunteer Fire Company, Roscoe.

Saskatchewan: Unity Fire Department, Unity.

Texas: Spring Branch Volunteer Fire Department, Houston 24.

Vermont: Bennington Rural Fire Department, Bennington.

Virginia: Northampton Fire Company, Hampton.

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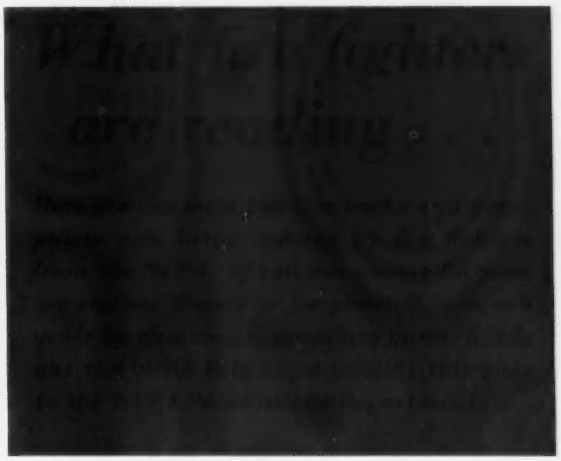

☐ **Respiratory Hazards of the Fire Service**
In this book Dr. William D. Claudy describes respiratory hazards that confront fire fighters. Well-illustrated, about one-third of the book is devoted to the construction, use and maintenance of canister and self-contained masks. Other sections deal with smoke inhalation, lack of oxygen, toxic gases, fire fighting procedures and numerous other facts important to a fire fighter's well-being.
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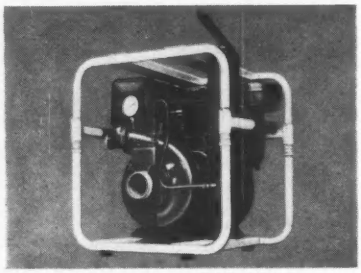

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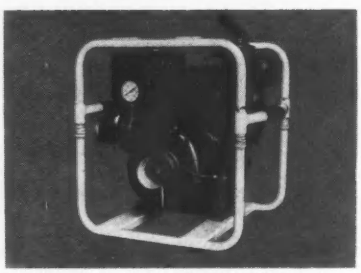

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Conshohocken, Pa.

Physical Exams for Volunteers

SOMETHING to be considered by chiefs and other executive officers of volunteer fire departments is the physical condition of persons who apply for membership in the department. The severe requirements placed upon fire fighters demand that a man be physically capable of meeting the strenuous situation.

Charles L. Roblee, Fire Training Instructor at Purdue University, Lafayette, Indiana, recently called attention to a physical examination form developed by his father, Dr. Leonard F. Roblee. Dr. Roblee, a general practitioner, has been a member of the Lockport, Illinois, Township Volunteer Fire Department for over 35 years. He served as Chief, Assistant Chief and President of the department and also as President and Secretary of the Lockport Township Fire District. Concerning the volunteer fire fighter, Dr. Roblee says, "In other words, his safety and the safety of the other firemen working with him will depend upon not his health alone but on his physical ability to work at a fire as a fireman."

PHYSICAL EXAMINATION REPORT
FOR ..... FIRE DEPARTMENT

Name .....

Address..... Date.....

Age.....Yrs. Weight.....Lbs.

Height..... Ins.

(1) Pulse..... Respiration.....
Blood Pressure.....

(2) Hearing Watch L Ear...../36
Watch R Ear...../36

(3) Vision L Eye 20/.....
Watch R Eye 20/.....

(4) Evidence Diseased Condition of Nose?.....Tonsils? .....
Gums?..... Tongue?.....

(5) Indication of disease of heart?.....
Veins or arteries?.....

(6) Indication of disease of lungs?.....

(7) Has he hernia or enlarged inguinal rings?.....

(8) Has he hydrocele or varicocele?.....

(9) Is he free from indications of disease of nervous system?.....

(10) Has he any defects of arms, fingers, hips, legs, body or joints of lower or upper extremities?.....

Remarks.....

.....

.....

I believe this man (not to be) (to be) physically qualified to be a fireman.

.....

Signed .....M.D.

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New Fire Marshal in Ohio

FIRE CHIEF Elmer Stough has been appointed as Fire Marshal of the state of Ohio. For the past 35 years Chief Stough has been active in the fire service. He started as a volunteer fireman in Lorain, Ohio, then progressed from a regular paid fireman through the ranks as lieutenant, captain, assistant chief and in 1945 became Chief.

He has just completed a five-year term as Secretary-Treasurer of the Great Lakes Division of the International Association of Fire Chiefs and is a member of the Ohio Fire Chiefs' Association. Chief Stough is well known and respected by hundreds of persons of the Ohio fire service and by chief officers in many other states.

Handy Check List Available

THE International City Managers' Association has issued a new publication titled "Check List on How to Improve Municipal Services." This 62-page 6- by 9-in. paper bound pamphlet has 764 questions designed for municipal officials who want to determine the extent to which administration of local activities measures up to tested practices. Included in the booklet, is a section on fire department operation. This has 67 questions covering area arrangements, use of manpower, fire prevention, fire companies and stations, improved methods, equipment and communication.

Copies of the new booklet are priced at $2.00 each and may be obtained by writing to the International City Managers' Association, 1313 East 60th Street, Chicago 37, Illinois.

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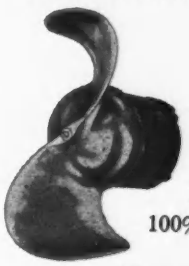

NOT JUST A FAN... but a powerful vacuum-action air screw... Super Vac is amazingly simple in operation, made possible by the efficient design of the **powerful propeller** that is the heart of the unit. This patented propeller produces 100% pulling or blowing power over its entire surface.

Proved method of saving lives while also reducing smoke damage

Fire departments **nation-wide** attest to the speed with which Super Vac provides **controlled ventilation**... so necessary in modern fire fighting. This multi-purpose unit primarily (1) gets rid of smoke and fumes through its powerful vacuum action... or, (2) furnishes a tremendous blast of fresh air into the smoke-congested area, reducing the dangers of combustion and asphyxiation. Although one unit is often sufficient, **complete controlled ventilation** can be more speedily accomplished by using two or more units... one or more units **pulling out the smoke and fumes** while the remaining units **blow in a steady supply of fresh air.**

★ **Highly portable... operates in any position**
★ **Design permits vertical stacking**
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★ **AC or DC, regular or explosion-proof motors**
★ **Choice of red or white baked enamel finish**
★ **Running board mounts available**

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... contact your fire equipment dealer

... or write manufacturer

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this month's EQUIPMENT NEWS

De Luxe Fire Bucket Is Ice Cooler

A smash hit of the I.A.F.C. Conference exhibits in Los Angeles was the antique leather ice bucket made by *Cairns & Brother, Inc.* Finished in either black or red high gloss leather, these delightful replicas of the 17th and 18th century fire buckets contain a gold anodyzed spun aluminum inner shell with capacity of 4 full trays of ice cubes. Actual size is 13 in. deep and 8 in. diameter plus handle. Shipping weight is eight pounds. For special price to the fire service, write to *Cairns & Brother, Inc.*, Allwood, Clifton, New Jersey.

●

Acme Protection Equipment Company, 1271 Kalamazoo Street, South Haven, Michigan, is introducing its SEE-O Indicator Window Canister (approved by U. S. Bureau of Mines) which tells at a glance when the Acme Type FD All-Purpose Canister will give protection against CO. Fire Departments and industrial plants should write for illustrated literature. . . . Quick repair of concrete floors, aprons and cement breaks is easy with Patch-Crete masonry kit (powder, liquid and trowel). Contact *Camp Chemical Company, Inc.*, 2nd Avenue and 13th Street, Brooklyn 15, New York. . . . Is high humidity causing trouble in your cellars, storerooms, shop and basement areas? Ask *Abbeon Supply Company*, 179–1513 Jamaica Avenue, Jamaica 32, Long Island, New York, for Bulletin 512, "Facts about Dehumidification."

●

Safety belts for fire apparatus should meet requirements of the Civil Aeronautics Administration. The Diamond "S" safety belt, manufactured by *Service Belt Company, Inc.*, 810 Broadway, New York 3, New York, is claimed to not only meet but actually surpass these specifications. . . . Mobile tunable receivers operating in the 30–50 mc and 152–174 mc communications bonds are announced by *Monitorradio, Division I. D. E. A., Inc.*, 7900 Pendleton Pike, Indianapolis 26, Indiana.

●

City of Philadelphia, Pennsylvania, recently added eight new "open-cab" John Bean combination high pressure fog and volume pumpers. . . . A team of communications men is now demonstrating the new RCA "Personalfone," a pocket-sized, two-way radio said to transform a fire fighter into a "walking radio station." Clipped to a belt or carried in a pocket, the 10-ounce receiver and 29-ounce transmitter unit has a range up to two miles in communication with mobile units or even longer with fixed stations. Write to *RCA, Communication Products Department*, 30 Rockefeller Plaza, New York 20, New York.

New 200-pound Wheeled Extinguisher

Walter Kidde & Company, Inc., announces a new model 200 DCP pressurized dry chemical wheeled extinguisher that is literally a one-man fire engine for fires in flammable liquids, liquefied petroleum gases, and outdoor electrical hazards. Write for free six-page brochure to *Walter Kidde & Company, Inc.*, 675 Main Street, Belleville 9, New Jersey.

INDEX TO ADVERTISERS

	Page
Akron Brass Manufacturing Company, Inc.	2, 3
American District Telegraph Company (ADT)	37
American Fire Apparatus Company	6
American LaFrance Corporation	4
Cairns & Brother, Inc.	26
Circul-Air Corporation	20
Cornelius Company	27
W. S. Darley & Company	28
Federal Sign & Signal Corporation	32
Globe Manufacturing Company	32
Hale Fire Pump Company	34
Hook-Fast Specialties, Inc.	35
Howe Fire Apparatus Company	30
International Bronze Tablet Company, Inc.	21
Macchi & Company	25
Mack Trucks, Inc.	39
Midwestern Safety Manufacturing Company	21
Mine Safety Appliances Company	5
Monitoradio Division, I.D.E.A., Inc.	29
Marysville Body Works, Inc.	24
Nielsen-Rionda, Inc.	34
D. W. Onan & Sons, Inc.	21
Pennsylvania Dutch Candies	25
Roberts Company	34
Rockwood Sprinkler Company	38
Scott Aviation Corporation	31
D. B. Smith & Company	19
Super Vacuum Manufacturing Company	35
Waterous Company	23
Westmont Fire Department	21

BUYING NEW EQUIPMENT?

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Item	Page
Air compressors	27
Alarm systems	27
Apparatus, motor fire	4, 6
Apparatus, pumping	19, 21, 28, 39
Apparatus, rescue	24
Badges, uniform	34
Business opportunities, jewelry	35
Call systems, radio	29
Clothing, protective	21, 32
Electric plant, portable	21
Extinguishing agents and equipment	2, 3, 38
Flashers, horn signal and warning lights	25, 32
Fund raising, candy sale	25
Helmets	26
Hose dryers	20
Hose racks	20
Hose washers	20
Masks	5, 31
Plaques, trophies, cups	21
Pumps, electric	23
Pumps, portable	34
Pumps, sliding	30
Ventilating units	35
Wetting agents	38

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ADT

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